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B I M - E P I C

DISK / TAPE MANAGEMENT SYSTEM

INSTALLATION
AND
SYSTEM GUIDE

Release 6.3

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Preface

Most BIM-EPIC features operate only in conjunction with controlled datasets (datasets that BIM-EPIC catalogs and maintains), and controlled datasets are assumed in the discussion of each feature. Activity involving uncontrolled datasets is noted explicitly.

BIM-EPIC configuration options govern how BIM-EPIC operates and what you can expect BIM-EPIC to do. Default options are assumed in the main body of the *BIM-EPIC User Reference Guide*. Variations caused by non–default options are described in the *BIM-EPIC Installation and System Guide*. Please consult your systems programmer if BIM-EPIC appears different from the description in the documentation.

This manual contains references to the products BIM-GSS and BIM-FAQS/ASO. Unless specifically stated otherwise, the products CA-GSS and/or CA-FAQS/ASO from Computer Associates can be used instead of the BIM products.

Special Terms

The following terms have specific meanings in this manual:

Term	Means...
Enter	Type the boldfaced characters and press the ENTER key.
Type	Type the boldfaced characters without pressing ENTER.
Character	Alphanumeric characters such as A to Z and 0 to 9.

Command Syntax

Descriptions of BIM-EPIC commands and control statements include the correct syntax or format used. The following example shows the special characters and conventions used to represent command syntax.

```
COMMAND   value
          [,PARM1=(value1,value2,...valuen)]
            ,NOFUNCTION
          { ,FUNCTION  }
          [,DOTHIS=YES|NO]
```

Upper–case characters (COMMAND) must be specified as shown.

Italics (*value*) represent variable information. In command lines, do not enter the characters shown. Instead, enter the information they represent.

In command lines, square brackets ([PARM1=...]) indicate optional items. To use the option, specify only the information inside the brackets. Do not code the brackets ([]) themselves.

Parentheses (()) should be specified as shown. They are used to group multiple subparameters or values together within a single parameter. If only one value is coded for a parameter, parentheses are not required.

Braces ({ NOFUNCTION }) also indicate required items. They surround lists of values or parameters where only one must be supplied. Specify only one of the choices. Do not code the braces ({}) themselves.

The vertical bar symbol (YES|NO) separates choices that are mutually exclusive. Enter only one of the choices.

An underlined item (YES) indicates a default value that is used if the parameter is not specified.

Unless otherwise noted, parameters must be specified in the order shown.

Parameter Tables

Most commands, control statements, and macro statements use parameters. Parameter tables provide quick reference to those specifications. These tables indicate whether the parameter is required or optional, what values are valid, and any defaults. Parameter tables display information in the following way:

Parameter	Required?	Valid Entry	Default
value	Yes	1 to 99 characters	
PARM1	No	See syntax	VALUEA
One of the following two is required:			
FUNCTION			
NOFUNCTION			
DOTHIS	No	YES or NO	YES

Contacting BIM-EPIC Technical Support

You can reach BIM-EPIC Technical Support at any time. Our normal operating hours are from 8:00 a.m. to 7:00 p.m. Central Time. In addition to our regular customer support, we have technicians on call 24 hours a day, 7 days a week for emergency support. If you are outside the United States or Canada, contact your BIM Sales Agent.

Technical Support During Normal Operating Hours

Please remember that we rely on your description of the situation in order for us to determine its cause accurately. The more information you can provide, the more promptly we are able to solve your problem. By following the guidelines below, you can help us provide you with the exceptional service our customers have learned to expect.

Procedure

Step	Action
1	Gain as thorough an understanding of the situation as you can, and classify your call using one of the following categories: 1. MALFUNCTION IN A USER PROGRAM: A user program behaves differently with BIM-EPIC turned on than with BIM-EPIC turned off. 2. MALFUNCTION IN VSE: VSE malfunctions when BIM-EPIC is turned on. For example, you receive non-interruptible wait states, system loops, and so on. 3. BIM-EPIC FAILURE: An overall BIM-EPIC failure (abend). 4. OPERATIONAL MALFUNCTION: A particular BIM-EPIC function or message does not operate correctly. 5. QUESTION: Seeking “how-to” information or general knowledge.
2	Have your documentation ready and available. We require the following documentation for problems in classes 1 through 4: A current TSIDDEB Summary Report, containing details concerning BIM-EPIC and your system configuration. The CONSOLE LOG (with our messages turned on): This provides a step-by-step account of the situation. The JCL, including expanded procedures: This is necessary to enable the technical staff to re-create the problem. A DUMP (if one is produced and as presented by VSE and not by third party dump management software): This is necessary if we cannot re-create your problem due to differences in hardware or software.
3	Call us at 612- 933-2885. Please answer the questions asked by our receptionist as accurately as possible. This will enhance our ability to interpret your situation accurately and respond promptly. Our FAX number is 612- 933-7764.

After-Hours Emergency Support

Please follow the guidelines outlined under "Technical Support During Normal Operating Hours" to gather the information required by our technical staff to solve your problem.

When calling for after-hours emergency support, an outside answering service will answer your call. Please be clear and precise when giving your name, company, your (after-hours) telephone number, and a brief description of the problem. Be sure to mention clearly that you need assistance with the product BIM-EPIC. EPIC can sound a lot like EDIT, another BIM product, and you could end up in the wrong support area.

The answering service will page the support technician on call. It will take approximately 35 minutes for you to receive a call back. If you do not receive a call in this time, call again to verify that the answering service has your correct phone number. Long delays usually indicate that we are having difficulty contacting you with the information given to us.

Related Publications

The documents described below contain important BIM-EPIC technical information. Familiarity with the relevant IBM operating system is assumed.

- *BIM-EPIC Installation and System Guide* contains detailed procedures for BIM-EPIC system installation, configuration, and maintenance. It assumes that you have access to the User Reference.
- *BIM-EPIC User Reference Guide* serves as both user guide and reference to BIM-EPIC operating features.
- *BIM-EPIC Messages and Codes* lists and describes BIM-EPIC messages and codes, including message responses and problem resolution.
- *BIM-EPIC Conversion Guide* contains instructions for converting to BIM-EPIC from another tape and disk management system.
- *BIM-EPIC Technical Release Notice* lists enhancements and feature changes that have been put in place since the last release. It also describes any special information required for upgrading to the current release.
- *Technical Notes*, distributed on the BIM-EPIC installation tape, contains the latest technical information, including updates to BIM-EPIC printed documentation.

1

Installation Worksheets

Complete the following worksheets before installing BIM-EPIC.

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Initial Installation Checklist 1-2
Pre-4.1 Upgrade Checklist 1-4
Pre-Installation Worksheet 1-6
Disk Pools Worksheet 1-9
Tape Pools Worksheet 1-10
TSIDMAP Worksheet 1-11
Configuration Options Worksheet 1-12
Vault Management Worksheet 1-14

Initial Installation Checklist

Preparing for First-Time Installation

Here is a list of the steps to take when installing BIM-EPIC for the first time. Use this checklist to record completion of each one. Related procedures are described in detail in the rest of this manual.

__ 1. Contact BIM-EPIC Technical Support

__ 2. Install BIM-EPIC in Test Environment

__ 3. Complete Pre-Installation Worksheet

__ 4. Meet Operating System Requirements

__ 5. Meet Space Requirements

__ 6. Meet Software Compatibility Requirements

__ 7. Ensure BIM-GSS Availability

__ 8. If Automatic Cartridge Library (ACL) support is used, determine the system requirements and identifying information used in the vendor's ACL unit. This information is specific to each ACL vendor.

Installing System Datasets

__ 1. Load Library Modules from Distribution Tape

__ 2. Create the DSN Catalog

__ 3. Create the Recorder File

__ 4. Create the Separate JOBQ File (optional)

__ 5. Create BIM-EPIC Resource Dataset (required to share tape resources among multiple physical or virtual VSE machines)

Installing Storage Management Features

__ 1. Create the TSIDPOL Phase

__ 2. Configure QDAS

Updating the ASI Procedure

__ 1. Partition Updates

__ 2. Modify Standard Labels

__ 3. Add a Dummy Tape Device and Modify Tape Modes

__ 4. Update SVA Size

__ 5. Increase System GETVIS

__ 6. Increase Partition GETVIS

__ 7. Increase Dynamic Space GETVIS

__ 8. Update LIBDEF Procedures

__ 9. Multi-Partition and Multi-CPU Environments

__ 10. Modify BIM-EPIC Configuration Options

__ 11. Activate BIM-EPIC

__ 12. Finish CICS Installation

Final Base Installation Procedures

__ 1. Activate BIM-EPIC Support for Multiple Job Exits

__ 2. Create JCL for Maintenance and System Recovery

__ 3. Convert From Your Current Tape/Disk Manager

__ 4. Implement BIM-EPIC

__ 5. Sort Interface Macro (TSSRTDEF)

__ 6. Code Label Print Program (optional)

__ 7. Install Autoattach Feature (optional)

__ 8. Configure Vaults and Vaulting Methods (optional)

Pre-4.1 Upgrade Checklist

Description

This is a list of the steps necessary to upgrade from a pre-4.1 version of BIM-EPIC. Use this checklist to certify performance of each step.

Pre-Installation Modifications

__ 1. Contact BIM-EPIC Technical Support for Upgrades

__ 2. Complete Pre-Installation Worksheet

__ 3. Meet Operating System Requirements

__ 4. Meet Space Requirements

__ 5. Meet Software Compatibility Requirements

__ 6. Ensure BIM-GSS Availability

__ 7. If Automatic Cartridge Library (ACL) support is used, determine the identifying information used in the vendor's ACL unit. This information is specific to each ACL vendor.

Installation of Major Datasets

__ 1. Load Library Modules from Distribution Tape

__ 2. Reassemble TSIDPOL Phase

__ 3. Reassemble TSIVDEF Phase

__ 4. Create the Separate JOBQ File (optional)

__ 5. Create BIM-EPIC Resource Dataset (required to share tape resources among multiple physical or virtual VSE machines)

Update Your ASI Procedure

__ 1. Update SVA Size

__ 2. Increase System GETVIS

__ 3. Increase Partition GETVIS

__ 4. Increase Dynamic Space GETVIS

__ 5. Update LIBDEF Procedures

__ 6. Activate BIM-EPIC

__ 7. Finish CICS Installation

Final Base Installation Procedures

__ 1. Activating BIM-EPIC Support for Multiple Job Exits

__ 2. Convert DSN Catalog Dataset

Pre-Installation Worksheet

Description

During the installation dialog, information is requested based upon which options are selected. To avoid delays on the operator console, complete this worksheet before beginning the installation dialog.

CICS CSD Information

If you are not using a CICS SYSTEM DEFINITION (CSD) file and you wish to implement any or all of the BIM-EPIC CICS programs, you *must* perform a manual CICS installation of the BIM-EPIC CICS programs. See 2-75 in this manual for procedures.

If you are using a CSD file, you may request that the BIM-EPIC CICS programs be added to your CSD file automatically if label information for the CSD file is available. If label information for DFHCSD and its corresponding VSAM catalog are stored in standard labels, that label information can be used. Otherwise, specify the following:

- CSD fileid _____ (ie: VSESP.CSD.FILE)
- VSAM Catalog fileid _____ (ie: VSESPUC)

BIM-GSS Information and Requirements

The BIM-EPIC Online Manager (EOM) requires and runs as a subtask under BIM-GSS. The BIM-GSS subtask can be accessed from CICS, VTAM, BTAM or CMS (if BIM-FAQS/ASO is also installed). If you will be installing the BIM-EPIC Online Manager, the following requirements must be met and information provided.

BIM-GSS must be be installed before BIM-EPIC installation. If you do not have BIM-GSS installed or intend to install a more current release, refer to the *BIM-GSS Installation and Utilities Guide*.

Standard labels for the BIM-GSS SYS$VIO and SYS$MON datasets must be defined before beginning BIM-EPIC installation. The files must also be initialized.

- BIM-GSS resides in: lib _____ sublib _____

BIM-EPIC Message Help

VSE/ESA 2 users can install BIM-EPIC message explanations directly into the VSE/ESA Message Explanation File. If label information for IESMSGS and its corresponding VSAM catalog are stored in standard labels, that label information can be used. Otherwise, specify the following:

- IESMSGS fileid _____ (ie: VSE.MESSAGES)
- VSAM Catalog fileid _____ (ie: IJSYSCT)

VSE/ESA 1.3 or 1.4 users can install BIM-EPIC messages explanations directly into the BIM-FAQS/ASO message file. Label information for FAQSMSG *must* be stored in standard labels. Specify the following:

- BIM-FAQS/ASO resides in: lib_____ sublib _____

Autoattach

VM users can punch out the Autoattach installation files to be received by a CMS machine. If so, the following information must be provided.

- The CMS userid where to route SYSPCH output: userid _____

BIM-EPIC Installation Library

All users must provide the library and sublibrary to contain BIM-EPIC. The library must be predefined. If the specified sublibrary name does not already exist, it will be defined automatically during the installation process.

- BIM-EPIC resides in: lib _____ sublib _____

MSHP History File

BIM-EPIC supports MSHP installation. We recommend the use of a *separate* private history file. A new private history file can be defined and formatted during the installation process.

To install BIM-EPIC under MSHP control using a private history file (separate or not), the following information must be provided.

- fileid of the private history file: _____
- serial number of the disk volume on which it resides: VOLSER _____
- starting track/block number and file length : start _____ length _____

Installation Output

All users must provide the userid where to route SYSLST output.

The userid where to route SYSLST output to: userid _____
(If your installation does not utilize the DEST parameter on the VSE/POWER LST JECL statement, respond with "NONE".)

Sharing Tape Resources

To share tape resources (or an ACL) among multiple VSE machines (physical or virtual), the BIM-EPIC Resource Dataset (ERD) must be defined. What is its DTF Name? (must match the value for the ERDFILE configuration option) _____

IBM ACL Support

To provide BIM-EPIC support for an IBM Automatic Tape Library in a VSE Guest environment under VM:

- The IBM VSE Guest Server (VGS) must be installed
- The IBM LIBRCMS product must be installed
- BIM-EPIC configuration option VM=YES must be specified.

To provide BIM-EPIC support for an IBM Automatic Tape Library in a native VSE environment:

- The IBM Library Control Device Driver (LCDD) must be installed

See 5-60 in this manual for more information.

Memorex ACL Support

To provide BIM-EPIC support for a Memorex Automatic Tape Library in a VSE Guest environment under VM:

- Memorex Library Management Software (LMS) must be installed on a CMS Server. What is the CMS Logon ID of the LMS Server? _____
- VM=YES must be specified as a BIM-EPIC configuration option.

Disk Pools Worksheet

Pool Name	Alias	Volid	Start	End	Level	Quiesce	Offline

Tape Pools Worksheet

TAPPOL=_____

Tape Pools:

Pool Name	Low Volser	High Volser

To define BIM-EPIC tape pools to a Memorex ATL, see 5-67.

TSIDMAP Worksheet

Uncontrolled DTF Names

List the frequently accessed DTF names that BIM-EPIC does not control. Specify these DTF names on the ILIST parameter. Include DTF names for all BIM-EPIC system files, include the DSN Catalog (set by DSNAME, default IJSYSDS), Recorder file (IJSYSDR), BIM-EPIC Resource Definition dataset (set by ERDFILE, suggested name IJSYSSP), and optional separate JOBQ (set by JQNAME, suggested name IJSYSJQ).

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

DTF Names for No LUB Allocation

List the DTF names to inhibit LUB allocation for. Specify these DTF names on the NLUBDTF parameter. BIM-EPIC automatically inhibits LUB allocation for specific DTF names. See TSIDMAP for more information.

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

Program Names for No LUB Allocation

List the program names to inhibit LUB allocation for. You specify these names on the NLUBPGM parameter.

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

Program Names for Reblocking with Undefined Record Format

List the program names which support reblocking. Specify these names on the RBLKPGM parameter.

_____ _____ _____ _____

_____ _____ _____ _____

Configuration Options Worksheet

Use this worksheet to record desired values for configuration options. Defaults, if any, are shown in parentheses. See 5-8 for descriptions of the options.

ACCEPT=_____ (YES)

ACLAUTI=_____ (NO)

ACLIBM=_____ (NO)

ACLLIB=_____ (see 5-8)

ACLMEM=_____ (NO)

ACLRECS=_____ (100)

ACLSTK=_____ (NO)

ACLSRVR=_____ (see 5-10)

ACLTIME=_____ (180)

ALLMALL=_____ (NO)

ALLMSG=_____ (YES)

ALTMSGS=_____ (NO)

AUTOATT=_____ (NO)

AUTOCAT=(_____,_____) (NO,NO)

AUTOLOG=_____ (NO)

AUTOSTP=_____ (NO)

AUTSTPN=_____ (5)

AUTSTPNO=_____ AUTSTPN

AUTSTPT=_____ (10)

AUTSTPTO=_____ AUTSTPT

BYPEXT=_____ (NO)

CANMSG=_____ (NO)

CATRT1=_____ (NO)

CKDFACT=_____ (30)

CMSTAPE=_____ (NO)

CNTRL=_____ (NO)

CPUIDS=_____ (see 5-15)

CWDSPOL=_____ n/a

CYCL=_____ (3)

DDERR=_____ (see 5-16)

DDGEN=_____ (NO)

DEBUG=_____ (NO)

DEFEXT=_____ n/a

DEFPOL=_____ n/a

DEFTPL=_____ (NO)

DEFWPOL=_____ DEFPOL

DISKALL=_____ (YES)

DSKLUB=_____ (YES/100)

DSKRET=_____ (7)

DSNAME=_____ (IJSYSDS)

DSNWARN=_____ (200)

DSNWMSG=_____ (10)

EPICOFF=_____ n/a

ERDFILE=_____ n/a

EURODAT=_____ (NO)

FBAFACT=_____ (0)

FRAG=_____ (NO)

GDI=_____ (YES)

GDIUR=_____ (YES)

JCLAC=_____ (YES)

JCLLANG=_____ (YES)

JCLOPT=_____ (NO)

JCLOVRDE=_____ (NO)

JOBACCT=_____ (YES)

JQNAME=_____ n/a

JQWARN=_____ n/a

JQWMSG=_____ n/a

MINDEX=_____ (NO)

MINRET=_____ (7)

MODE=_____ (D0)

MSG088=_____ (NO)

MULTCPU=_____ (NO)

NCATDSK=_____ (NO)

NOGVIS=_____ (CANCEL)

ONLREWCD=_____ (RUN)

PASSWD=_____ n/a

PREFIX=_____ (EP)

PURBYP=_____ (NO)

RECORD=_____ (YES)

RECSHR=_____ (NO)

RERUN=_____ (YES)

RETEN=_____ (7)

RMNTPRT=_____ (NO)

SHARE=_____ (NO)

SLASIZE=_____ (300)

STRTRK=_____ (1)

TAPCUU=_____ (F00)

TAPE=_____ (YES)

TAPLUB=_____ (YES/10)

TAPPOL=_____ n/a

TSTJOB=_____ n/a

UNCDSK=_____ (NO)

UNCTAP=_____ (NO)

UNCTL=_____ (NO)

UNLABEL=_____ (YES)

UNLOAD=_____ (NO)

VGSFTAPE=_____ (YES)

VM=_____ (NO)

VSAM=_____ (NO)

Vault Management Worksheet

Vault Number	Vault Name	Starting Slot Number	Ending Slot Number
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			

Cartridges in an ACL are considered to be in the Main Library (Vault 0). See 6-38 for more information.

2

Installing the Basic System

This chapter contains procedures for installing or upgrading to the current release of BIM-EPIC. Autoattach installation is presented at 3-1. BIM-EPIC configuration options are described at 5-1. BIM-EPIC utilities are described at 6-1.

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BIM-GSS Installation

Introduction

Description

BIM-EPIC provides the Online Manager for accessing and managing the DSN Catalog from BIM-FAQS/ASO, VTAM, or CICS. Online Manager requires BIM's Global Subsystem (BIM-GSS) product. The current BIM-GSS release is included as part of the BIM-EPIC Installation package.

WARNING!

BIM-GSS INSTALLATION MUST BE COMPLETED BEFORE BIM-EPIC INSTALLATION BEGINS.

If You Already Use BIM-GSS

Please refer to the *BIM-GSS Installation and Utilities Guide* for detailed information on how to install the BIM-GSS release that is included with BIM-EPIC.

If You Do Not Already Use BIM-GSS

The *BIM-GSS Installation and Utilities Guide* provides a detailed description for doing a first-time BIM-GSS installation.

Preparing to Upgrade from the Previous Release

Procedure

If you are installing BIM-EPIC for the first time, skip this section.

To upgrade from the previous BIM-EPIC release:

Step	Action
1	Back up the DSN Catalog and Recorder File. See Chapter 4 for details.
2	Review the *Technical Release Notice* for special upgrade information.

3	Run a TSIDDEB Summary Report for the current BIM-EPIC system, as follows:
	`// EXEC TSIDDEB`
	`SUMMARY=YES`
	`/*`

4	Refer to special upgrade instructions during the installation procedure.

Upgrading Over More Than One Release

To upgrade from TFAST, DFAST, T/DFAST, or a version of BIM-EPIC that is more than one release behind BIM-EPIC's current version, additional steps may be required.

Please contact BIM-EPIC Technical Support for more information.

Preparing for First-Time Installation

Introduction

Test Installation

We recommend that you install and test BIM-EPIC in a test environment. A test environment allows you to validate BIM-EPIC's compatibility with other software products and allows you to fine-tune your JCL without affecting your production system.

Pre-Installation Worksheet

The Pre-Installation Worksheet (see Chapter 1) provides a step-by-step outline of the installation process.

BIM-GSS Installation

BIM-GSS must be installed before BIM-EPIC can be installed. A BIM-GSS tape and a *BIM-GSS Installation and Utilities Guide* is included in the material you received with BIM-EPIC. *If the release level of the BIM-GSS tape you received with BIM-EPIC is the same as your current BIM-GSS, do not re-install BIM-GSS from this tape.*

Latest Technical Notes

Once you have completed the installation dialog and BIM-EPIC has been installed on your system, read the TECHNOTE.Z member included with the SYSLST output. This document contains all the latest installation, utilization, and documentation updates.

Operating System Requirements

FCOBOL Support (All Operating Systems)

Some BIM-EPIC utilities are written in FCOBOL. If your installation does not have COBOL, you must catalog the following program to a VSE library that is available whenever the BIM-EPIC system is active:

```
// OPTION CATAL
   PHASE $$BFCMUL,+0
// EXEC ASSEMBLY
$$BFCMUL  CSECT
          DC   CL8'$$BFCMUL'
          SVC  11
          END
/*
// EXEC LNKEDT
```

If your installation already uses FCOBOL, do not catalog the program above.

IBM VSE Operating Systems

Some of BIM-EPIC's optional features require certain functions in the VSE supervisor and/or IPL procedure:

BIM-EPIC Feature	Required VSE Parameter
Sharing the DSN Catalog and disk pool space between real or virtual machines.	,SHR on IPL ADD command for every DASD shared.
Recording job accounting information with the Recorder File, and Job Management Control Language.	JA=YES on IPL SYS command.

IBM ACL

BIM-EPIC support can be provided in a VSE Guest environment under VM or in a native VSE environment.

In the VSE Guest environment under VM, the IBM VSE Guest Server (VGS) and LIBRCMS product must be installed.

In the native VSE environment, the IBM Library Control Device Driver (LCDD) must be installed.

See 5-60 in this manual for more information.

Memorex ACL

BIM-EPIC support is provided using the VM IUCV facility. BIM-EPIC must be running on a VSE Guest machine. The Memorex Library Management Software (LMS) product must be operational as a CMS Guest. See 5-64 in this manual for more information.

STK ACL

BIM-EPIC support is provided using the VM IUCV facility. BIM-EPIC must be running on a VSE Guest machine. The STK Host Software Component (HSC) product must be operational as a CMS Guest. See 5-64 in this manual for more information.

Determining Space Requirements

Space Table

All GETVIS requirements are in addition to the IBM defaults. See 2-57 in this manual for more information.

System Area	24-bit space	ANY (if 31-bit available)
BIM-EPIC base system (ESA 1.3)		
SVA	430K + length of TSIDPOL phase	0K
System GETVIS	28K	42K + (SLASIZE * 227)
BIM-EPIC base system (ESA 1.4, 2.x)		
SVA	400K + length of TSIDPOL phase	11K
System GETVIS	28K	42K + (SLASIZE * 227)
QDAS System		
SVA	10K	0K
System GETVIS	0K	(n * 8) where n is the total of all map values in the TSIVDEF macro
ACL Support		
SVA	33K	0K
System GETVIS	0K	0K

SLASIZE is a BIM-EPIC configuration option which defaults to 300. See 5-24 in this manual for more information.

TSIDPOL is the pool definition phase. It is usually under 1K.

TSIVDEF is the QDAS definition phase. See 2-55 in this manual for more information.

Partition GETVIS Required for each Task

26K + (*n* * 8), where *n* is the number of map entries specified in the TSIDMAP macro. See 2-47 in this manual for more information.

Dynamic Space GETVIS (Dynamic Partitions Only)

60K is required in dynamic partitions only. For each dynamic partition, there is a limitation of 256 labels which cannot be enlarged.

Library Space

8400 library blocks

Compatibility with Other Software

Description

This section notes compatibility considerations between BIM-EPIC and other system software products. It only includes major software products for which special considerations are known. If you are using any software described in this section, you must make the required modifications.

Conversions

If you are converting from another tape and/or disk management system, you must contact BIM-EPIC Technical Support before attempting installation.

Some fixes that were applied for your current tape or disk management system may inhibit BIM-EPIC from functioning properly. For instance, a fix applied to make CA-System/Manager and CA-DYNAM/T compatible can interfere with BIM-EPIC's ability to function. These fixes must be identified and removed. Since software companies continually update their fixes, it is impractical to maintain a current list of problem fixes in printed form. We recommend that you call BIM-EPIC Technical Support.

Activating Software Before BIM-EPIC

Activate the following software before BIM-EPIC is started:

- Abend-AID
- CA-DRIVER
- CA-EXTEND/DASD for VSE
- Global Subsystem (BIM-GSS)

Additional Software Considerations

Other BIM Software

BIM-ALERT**:** BIM-EPIC's special option EPS029 is required to run with ALERT.

BIM-FAQS/ASO and BIM-FAQS/PCS: Must be started before starting BIM-EPIC.

GSMTA: For Multiple Transient Area (GSMTA) users, update GSMTA's enqueue table by adding the following parameter to the GSMTA start-up:

```
$$BTSID,NQID=(VTOC)
```

COMPUTER ASSOCIATES

CA-LIBRARIAN: Inhibit BIM-EPIC's LUB allocation for all controlled datasets used with CA-LIBRARIAN programs.

CA-SORT:

- Set the CA-SORT options DYNAM/D and DYNAM/FI to NO. If these options are not deactivated, INVALID DTF TYPE messages can occur.
- Specify the CA-SORT macro parameter SPECIAL=2 if BIM-EPIC controlled tapes are to be accessed by CA-SORT.
- If the BIM-EPIC sort interface program (TSIDSRT) is executed instead of CA-SORT, and if the CA-SORT RC option is set to NO or is unspecified, set the CA-SORT option INVCNCL to YES. INVCNCL=YES causes CA-SORT to cancel the job when a critical sort error occurs, just as if CA-SORT was executed directly.
- We recommend that you set the BIM-EPIC special options EPS002 and EPS003 to YES. These options permit LUB allocation for SORTIN, SORTOUT, and SORTWK files, thus preventing any potential SYS number conflict which might occur during secondary extent allocations.

CA-Easytrieve: Define EASYTRIEVE's CRDWK dataset to BIM-EPIC's DSN Catalog as a non-generation dataset, and inhibit truncation on the dataset.

CA-PANVALET: Inhibit BIM-EPIC's LUB allocation for all controlled datasets used with PANVALET programs.

IBM

Deactivate BIM-EPIC in the entire VSE system when applying any VSE maintenance that recatalogs or reloads any BIM-EPIC-required phases in the SVA. See 5-44 in this manual for more information.

POWER: Start BIM-EPIC before POWER.

MEMOREX

BIM-EPIC is compatible with Library Management Software (LMS) releases 2.7 and above for ACL support.

SYNCSORT

BIM-EPIC users with SYNCSORT can enjoy superior performance by utilizing the direct interface between BIM-EPIC and SYNCSORT. Among the advantages of this interface are:

- LUB allocation for all standard SORT DTF names
- Secondary allocations for SORTWK files
- Truncation of SORTOUT disk files
- Accurate input file size, allowing better optimization of the sort
- Dynamic reblocking
- Device independence
- File concatenation

To invoke this interface, customize the SYNCSORT defaults (using the SYNCMAC Macro) to include the options shown below. For more information on these options, refer to the *SYNCSORT Installation Guide*.

- Specify EPICINT=YES which enables the BIM-EPIC/SYNCSORT interface.
- When utilizing BIM-EPIC tape support, specify TMS=EPIC to cause SYNCSORT to allow BIM-EPIC to dynamically assign tape devices.
- When utilizing BIM-EPIC disk support, specify DMS=EPIC to identify BIM-EPIC as the installed disk management system.
- Specify OUTRUNC=YES to allow SORTOUT files to be truncated when closed.
- Specify SECMAX=8 to allow multiple logical unit numbers for secondary SORTWKn allocations.
- Specify SWKSEC=YES to allow SORTWKn secondary allocations to occur when needed
- Specify ICONLUN=IGNORE to cause inconsistent logical unit numbers to be ignored when detected. (For example, an inconsistent logical unit number may occur when SYNCSORT expects SORTOUT to use SYS001 but BIM-EPIC provides SYS030).
- Specify VSESPRC=CANCEL to cause SYNCSORT to issue a CANCEL SVC (rather than issuing normal EOJ with a positive return code) when terminating because of a critical error. This setting is required when either the BIM-EPIC CANMSG or PURBYP configuration options are set to YES and also to assure that DISP= parameters are correctly processed.

Finally, set BIM-EPIC special options EPS002 and EPS003 to yes to permit LUB allocation for all standard SORT DTF names.

IBM SORT BEGINNING WITH DFSORT 3.3

BIM-EPIC users with IBM SORT beginning with DFSORT 3.3 can enjoy superior performance by utilizing the DFSORT File Management System support designed to attempt interaction with BIM-EPIC. Among the advantages of this support are:

- LUB allocation for all standard SORT DTF names
- Secondary allocations for SORTWK files
- File concatenation

To invoke this support, customize the DFSORT defaults (using the ILUINST Macro) to include the option shown below. For more information on this option, refer to the *DFSORT/VSE Installation and Tuning* .

- Specify FMS=YES which enables the DFSORT File Management System support.

Also, set BIM-EPIC special options EPS002 and EP003 to yes to permit LUB allocation for all standard SORT DTF names.

CA-SORT

BIM-EPIC users with CA-SORT can enjoy superior performance by utilizing CA-SORT compatibility with BIM-EPIC feature for TLBL options and SORTWK deletion. To invoke this support, customize the CA-SORT installation options (using the CASORT Option Macro) to include the option shown below. For more information on this option, refer to the *CA-SORT Systems Programmer Guide*.

- Specify special option 2.

Also, set BIM-EPIC special options EPS002 and EP003 to yes to permit LUB allocation for all standard SORT DTF names.

BLUE LINE SOFTWARE

BACKUP/RESTORE, DUSP, and MAXBACK: Use BIM-EPIC's TSIDASS ASSGN function for all tape assignments to satisfy the pre-open checking performed by these products. In addition, inhibit BIM-EPIC's LUB allocation for all tapes which *do not* use the DTF name SYS000. There are no special considerations for disk datasets.

Creating BIM-EPIC System Components

Loading BIM-EPIC Modules from the Distribution Tape

BIM-EPIC is distributed on a magnetic tape or cartridge and is installed using the VSE Maintain System History Program (MSHP). The file content of the tape volume is as follows:

- File 1: Installation program and dialog
- File 2: Null file (tapemark)
- File 3: Header File
- File 4: History File
- File 5: BIM-EPIC Production Sublibrary
- File 6: Null file (tapemark)
- File 7: EOB (end of BACKUP information)
- File 8: Null file (tapemark)
- File 9: Null file (tapemark)

The BIM-EPIC Installation dialog asks you for site–specific information, installation options and desired optional components. Prior completion of the Pre-Installation Worksheet makes the installation process much easier.

BIM-EPIC can be executed from private or system libraries. We strongly recommend installing BIM-EPIC into a private sublibrary. The library structure can be either VSAM or BAM.

MSHP is used to install BIM-EPIC into its libraries. We strongly recommend using MSHP in conjunction with a *separate* private history file. BIM-EPIC APARs are distributed in MSHP CORRECTS format only and a history file is required to apply them.

Procedure

Step	Action
1	As with any new software installation, back up your target libraries first.
2	Mount the BIM-EPIC distribution tape. From the VSE console, type: `PSTART RDR,`*`cuu`* where *cuu* is the address of the tape drive on which the distribution tape has been mounted. A job named EPICINST is loaded into the POWER reader queue with CLASS=0. If EPICINST does not execute automatically, alter the POWER job class to allow EPICINST to execute in a partition where the Linkage Editor can be run. If you do not have POWER on your system, contact BIM-EPIC Technical Support for special installation instructions.
3	Follow the instructions on the operator console. Use the entries on your Pre-Installation Worksheet to assist you.
4	After the installation job is complete, dismount the distribution tape and save it.

Reinstalling BIM-EPIC System Components

Description

In multiple machine environments, following maintenance to VSE/ESA, BIM-EPIC or BIM-GSS, or when making system configuration changes, it may be necessary to reinstall individual BIM-EPIC system components. Most major components are conveniently supplied in cataloged procedures in the BIM-EPIC installation library. Additional JCL required to run these cataloged procedures appears below.

BIM-EPIC Libraries

No procedure is supplied to reload the BIM-EPIC product libraries. If it becomes necessary to do so, re-execute the installation dialog from the distribution tape to reinstall BIM-EPIC.

BIM-EPIC Online Manager

To reload the BIM-EPIC Online Manager into the BIM-GSS PDS files, execute the following JCL after substituting the appropriate library names:

```
// LIBDEF PROC,SEARCH=library.sublib,TEMP    <== BIM-EPIC Install lib
// LIBDEF PHASE,SEARCH=library.sublib,TEMP   <== BIM-GSS  Install lib
// EXEC PROC=DCOMOBJS
```

Ensure that the BIM-EPIC function or transaction is not in use when performing this procedure or execute it when the BIM-GSS subtask is not active. Failure to do so may result in an abend within BIM-GSS. If this occurs, recycle the BIM-GSS subtask.

CSD File for BIM-EPIC CICS Transactions

To reload the CSD file for BIM-EPIC CICS transactions, execute the JCL shown below after substituting the appropriate library name, and file label information:

```
// LIBDEF PROC,SEARCH=library.sublib,TEMP     <== BIM-EPIC Install lib
// DLBL DFHCSD,'csd.file-id',,VSAM,CAT=csdcat <== CSD file
// DLBL csdcat,'csdcat.file-id',,VSAM         <== CSD VSAM catalog
// EXEC PROC=EPICCSD
```

After performing this procedure, use CEDA to re-install the EPIC6 group to the list specified in the CICS GRPLIST start-up parameter.

BIM-EPIC Message Help for BIM-FAQS/ASO (ESA 1.3)

To reload the BIM-EPIC message text into the BIM-FAQS/ASO message database, execute the JCL shown below after substituting the appropriate library names:

```
// LIBDEF PROC,SEARCH=library.sublib,TEMP   <== BIM-EPIC Install lib
// LIBDEF PHASE,SEARCH=library.sublib,TEMP  <== FAQS/ASO Install lib
// EXEC PROC=TSIDMSGS
```

BIM-EPIC Message Help for EXPLAIN (ESA 2.1)

To reload the BIM-EPIC message text into the VSE/ESA EXPLAIN file, execute the JCL shown below after substituting the appropriate library name and VSAM catalog DTF name (for which the procedure assumes a standard label already exists):

```
// LIBDEF PROC,SEARCH=library.sublib,TEMP   <== BIM-EPIC Install lib
// EXEC PROC=IESMSGS,CAT='iescat'       <== EXPLAIN catalog DTF name
```

The EXPLAIN file must be inactive while it is being reloaded. The procedure prompts for the necessary AR commands to deactivate and reactivate it at the appropriate times.

BIM-EPIC Autoattach Installation Files

To reload the BIM-EPIC Autoattach installation files to your CMS machine, follow the procedure detailed at 3-20 in this manual.

BIM-EPIC Installation Jobstreams

Description

The BIM-EPIC distribution tape contains all the procedures and jobs necessary to complete BIM-EPIC installation. No additional JCL is required, but the supplied JCL may need to be modified for your installation.

The procedures and jobs that are cataloged by the installation procedure are:

Member Name	Member Type	Use
CATMOVE*n*	SAMPJOB	Relocate (and optionally change the size of) the DSN Catalog
DAILY*n*	SAMPJOB	Daily catalog maintenance and reports
DCOMOBJS	PROC	Creates Online Manager executable files
EPICCDK	Z	Sample JCL to format a new DSN and Recorder file
EPICCSD	PROC	Load BIM-EPIC definitions to CICS CSD File
EPICCWDS	Z	Sample control statements to catalog common work datasets for use by most assemblers, compilers, and SORT packages
EPICHF	PROC	DLBL, EXTENT, and ASSGN for BIM-EPIC MSHP private history file only if a private history file was selected during installation dialog
EPICJADB	Z	Sample IDCAMS statements to define job accounting VSAM file
EPICON	PROC	Procedure to start the BIM-EPIC system
EPICPAGN	Z	Permanent ASSGN's for SYSLNK and SYS001-SYS007 to satisfy pre-open requirements for most assemblers, compilers, and SORT packages
EPICSTDL	Z	Sample standard labels for the DSN catalog, Recorder File, separate JOBQ, BIM-EPIC Resource Dataset, and assembler, compiler, and SORTWK1 files
EPICVLT	Z	Sample Job stream to assemble and catalog VAULTDEF and METHOD macros to the BIM-EPIC sublibrary
IESMSGS	PROC	Procedure to load the BIM-EPIC messages to the VSE EXPLAIN file (VSE 2.1 and subsequent versions)
RECMOVE*n*	SAMPJOB	Relocate (and optionally change the size of) the Recorder File
RECOVER*n*	SAMPJOB	Recovers the DSN Catalog

TSIDCLN	PROC	Upgrades DSN catalog from BIM-EPIC version 2.*x*
TSIDMSGS	PROC	Procedure to load the BIM-EPIC messages to the BIM-FAQS/ASO Help File
TSIDPOL	Z	Sample job stream to assemble the TSIDPOL and TSIDMAP macros to catalog the TSIDPOL phase
TSIVCLR	Z	Initialize QDAS Share File
TSIVDEF	Z	Sample job stream to assemble the TSIVDEF macros to catalog the TSIVDEF phase
TSSRTDEF	Z	Sample job to assemble the TSSRTDEF macro to catalog the TSSRTDEF phase

BIM-EPIC Sample Jobstreams

In addition to the installation jobstreams listed above, many JCL samples are provided with BIM-EPIC in an effort to minimize the effort required to build successful jobstreams. Each JCL sample contains a general description of its objectives and any prerequisites, and each job step contains extensive notes explaining what it intends to accomplish. These JCL samples illustrate utilization of BIM-EPIC in various environments but are not intended to illustrate the features and capabilities of the various programs involved.

Each JCL sample is stored as a separate member in the VSE sublibrary where the BIM-EPIC system is installed using an arbitrary but unique member name and a common member type of SAMPJOB. The member name generally identifies what program or function in being illustrated followed by a number to maintain uniqueness.

Several indexes are supplied to help you locate a JCL sample that most closely fits your requirement. These indexes are also stored as separate members in the VSE sublibrary where the BIM-EPIC system is installed each using a member name beginning with $INDEX and a common member type of SAMPJOB. Use JCL similar to the following to list all these index members:

Example

```
// EXEC LIBR
ACCESS SUBLIB=yourlib.sublib
LIST $INDEX*.SAMPJOB
/*
```

BIM-EPIC System Datasets

Introduction

BIM-EPIC System Dataset Caching

Because BIM-EPIC's System Datasets are proprietary, physically chained databases, the following two conditions must be met for safe caching:

- The caching device must be one of the following:
  - WRITE-THROUGH where writes are committed to disk before the device/channel end is provided. Another term sometimes used is READ-ONLY CACHE, meaning that only reads are cached.
  - 100% NON-VOLATILE, so that the device will never fail (e.g., devices with internal UPS). If this is the case, the device must also handle failed writes dynamically. If the device fails or write requests cannot remain cached, forward recovery will not properly recover the DSN Catalog.
- I/O must not be reordered to optimize performance, either by the caching controller, the operating system, or a vendor product at the operating system level. The I/O must be processed in the order in which it was presented by BIM-EPIC.

DSN Catalog

BIM-EPIC uses the DSN Catalog to maintain information about files under its control. Freed records are automatically reused and the file structure is self-reorganizing.

Recorder File

The Recorder File logs changes to the DSN Catalog. The Recorder File serves as security against data loss if the DSN Catalog is damaged. The Recorder File can also be used for BIM-EPIC's job accounting reports and displays. It should be dumped and cleared on a regular basis.

JOBQ

BIM-EPIC uses the JOBQ to control job-specific functions such as:

- Purging datasets
- Controlling common workfiles
- Supporting BIM-EPIC DD statements

The JOBQ can reside within the DSN Catalog (it need not be a separate file), but system performance can be enhanced by using a JOBQ that is a separate VSE file. *If a separate JOBQ is not defined, BIM-EPIC places the JOBQ in the DSN Catalog by default.*

In single CPU environments, improved BIM-EPIC Performance is the only reason to create the JOBQ as a separate file.

In multiple CPU environments (Real, LPAR, or VM Guests), if the BIM-EPIC Catalog is shared, a separate JOBQ file **MUST** be used for each CPU.

Freed JOBQ records are automatically reused and the file structure is self-reorganizing.

BIM-EPIC Resource Dataset (ERD)

The BIM-EPIC Resource Dataset was designed to improve performance in VSE machines that share tape devices. It is required for ACL devices and to share tape devices among multiple VSE machines (physical or virtual).

Activation of the ERD requires setting the ERDFILE configuration option. In addition, the ERD must be formatted and loaded with user definitions for all shared resources. For more information, see 2-25 in this manual.

Defining the DSN Catalog

Description

The DSN Catalog can be shared with other BIM-EPIC systems, including CA-EPIC for CMS. When you plan the location and size for the DSN Catalog, the requirements of all systems must be considered. If the DSN Catalog is to be shared with another system, review the sharing requirements at 2-68 in this manual.

Space Requirements

Determine the DSN Catalog size requirements.

1. First determine the number of records the DSN Catalog will contain. There will be:

   - two records for each dataset name
   - one record for each extent of a disk file or volume of a tape file for each active version, each "open" or "conditionally cataloged" version, and each scratched tape version

If the JOBQ is to reside in the DSN Catalog, add the number of records required for the JOBQ (see below).

2. Use one of the following formulas to determine the amount of space to allocate:

For CKD tracks: $\frac{R+32}{16*B}$ For FBA blocks: $\frac{R+32}{2}$

where **R** is the estimated number of records the catalog will contain. **B** is the number of blocks per track. Use the following table to determine the value of B:

CKD Device Type	Number of Blocks Per Track
3330	3
3340	2
3350	4
3375	8
3380	10
3390	12
9345-1	10
9345-2	10

3. Use the following table to determine the number of tracks or FBA blocks to allocate for your DSN Catalog.

Device Type	Number of Records			
	5,000	7,500	10,000	20,000
3330	105	157	209	418
3340	158	236	314	626
3350	79	118	157	313
3375	40	59	78	157
3380	32	48	63	126
3390	27	40	53	106
9345-1	20	30	40	80
9345-2	14	20	26	52
FBA	2516	3766	5016	10016

The minimum size of the DSN Catalog on a CKD device is 1 cylinder. On an FBA device, the minimum size is 72 FBA blocks.

Placement Considerations

Determine which disk volume will be used for the DSN Catalog. Consider the following:

- The disk volume must be available to all machines running BIM-EPIC if the catalog is to be shared.
- For performance reasons, the DSN Catalog should be located on a volume which does not contain heavily accessed datasets such as POWER files.
- The DSN Catalog must be a single extent dataset.
- The DSN Catalog and Recorder File should be placed on different physical devices.

If you will be sharing your DSN Catalog with CA-EPIC for CMS, it must reside on a disk volume which is owned by VSE (with a VSE VTOC) and is also available to CMS. See 2-68 in this manual for more information.

If the DSN Catalog is to be updated by CA-EPIC for CMS, ensure that the disk volume has only one active path to VM/CP.

WARNING!

The Recorder File provides backup security for the DSN Catalog. If the DSN Catalog and Recorder File are both located on the same device and that device is lost or damaged, information vital to recovery of the DSN Catalog is lost.

Defining the Recorder File

WARNING!

The Recorder File can be shared among BIM-EPIC systems. However, it cannot be shared with CA-EPIC for CMS systems.

Space Requirements

Estimate the size of the Recorder File.

1. Determine the number of records to be logged each day. One record is logged for

- each time a job starts or ends
- each time a program starts or ends
- each time an extent or reel of a cataloged dataset is opened or closed
- each time the DSN Catalog is updated using Online Manager, TSIDMNT, or TSIDUTL

2. Use one of the following formulas to determine the amount of space to allocate:

For CKD tracks $\frac{R+4}{4*B}$ For FBA blocks $\frac{R+4}{2}$

where **R** equals the estimated number of records to log each day.

B equals the number of blocks per track.

Use the following table to determine the value of B.

Device Type	Number of Blocks Per Track
3390	18
3380	18
3375	17
3350	7
3340	4
3330	5
9345-1	14
9345-2	21

3. Use the following table to determine the number of CKD tracks or FBA blocks to allocate for various Recorder sizes:

Device Type	Number of Records					
	1000	2000	5000	7500	10000	20000
3390	10	20	50	75	100	200
3380	10	20	50	75	100	200
3375	10	20	50	75	100	200
3350	24	48	120	180	240	480
3340	42	84	210	315	420	840
3330	34	68	170	255	340	680
9345-1	48	96	240	360	480	960
9345-2	72	144	360	540	720	1440
FBA	668	1336	3340	5010	6680	13360

Placement Considerations

Determine which disk volume will be used for the Recorder File. The Recorder File and DSN Catalog should be placed on different physical devices.

For performance reasons, the Recorder File should be placed on a volume which does not contain heavily accessed datasets such as POWER files.

The Recorder File must be a single extent dataset.

WARNING!

The Recorder File provides backup security for the DSN Catalog. If the DSN Catalog and Recorder File are both located on the same device and that device is lost or damaged, information vital to recovery of the DSN Catalog will be lost.

Formatting the DSN Catalog and Recorder File

Description

The DSN Catalog and Recorder File are both formatted using the TSIDCDK utility. If you expect your DSN Catalog to contain more than 30,000 records, we recommend that you create a DSN Catalog with a Master Index. This is done by using the BCAT control statement instead of the CAT control statement on the TSIDCDK control statement and setting the BIM-EPIC configuration option MINDEX=YES.

Sample JCL

Use EPICCDK.Z as a sample to create the necessary JCL.

WARNING!

Different control statements must be used depending on whether a DSN Catalog or Recorder File is being formatted. Use the following:

To format...	Use...
DSN Catalog	DSN=*dtfname*
Recorder File	REC=*dtfname*

CKD Example

```
*             CREATE BIM-EPIC DSN CATALOG ON CKD
// ASSGN SYS240,151
// DLBL IJSYSDS,'EPIC.VSE.CATALOG',2099/366
// EXTENT SYS240,TSI151,1,0,3750,63
// EXEC TSIDCDK
 CAT=IJSYSDS
/*
*             CREATE BIM-EPIC RECORDER FILE ON CKD
// ASSGN SYS241,155
// DLBL IJSYSDR,'EPIC.VSE.RECORDER',2099/366
// EXTENT SYS241,TSI155,1,0,3900,81
// EXEC TSIDCDK
 REC=IJSYSDR
/*
```

FBA Example

```
*             CREATE BIM-EPIC DSN CATALOG ON FBA
// ASSGN SYS240,150
// DLBL IJSYSDS,'EPIC.VSE.CATALOG',2099/366,,CISIZE=4096
// EXTENT SYS240,TSI150,1,0,5700,1024
// EXEC TSIDCDK
 CAT=IJSYSDS
/*
*             CREATE BIM-EPIC RECORDER FILE ON FBA
// ASSGN SYS241,155
// DLBL IJSYSDR,'EPIC.VSE.RECORDER',2099/366,,CISIZE=2048
// EXTENT SYS241,TSI155,1,0,5700,1024
// EXEC TSIDCDK
 REC=IJSYSDR
/*
```

Defining the JOBQ

Description

If the JOBQ will reside in the DSN Catalog (the default), include the JOBQ size requirements in the overall DSN Catalog size requirements when planning the size of the DSN Catalog. When the JOBQ is a separate file, the JOBQ is not affected by, and does not affect, activity in the DSN Catalog. *If you create the JOBQ as a separate file, it cannot be shared with any other CPU (each CPU must have its own unique JOBQ).*

In single CPU environments, improved BIM-EPIC performance is the only reason to create the JOBQ as a separate file.

In multiple CPU environments (Real, LPAR, or VM Guests), if the BIM-EPIC Catalog is shared, a separate JOBQ file MUST be used for each CPU.

BIM-EPIC does not use VSE's "device-reserve" or "external-lock" facilities when accessing the separate JOBQ in a multiple-CPU environment. However, BIM-EPIC must use these VSE facilities to ensure the integrity of the DSN Catalog when the DSN Catalog is shared in a multiple-CPU environment.

Space Requirements

To determine the size requirements for the JOBQ, first calculate the total number of records as follows:

- Two records per partition
- One record for every dataset flagged for purge
- One record for every BIM-EPIC DD statement that uses a dataset name longer than 17 characters
- One record for every BIM-EPIC DD statement that uses a refer-back
- One record for every Common Work Dataset (CWDS) extent

If the JOBQ will reside in the DSN Catalog (the default), add the total number of JOBQ records to the other DSN Catalog requirements. If the JOBQ will be a separate file, use the formulas above to determine the space required for a separate JOBQ.

Please see the *User Reference*for descriptions of BIM-EPIC DD statements and Common Work Datasets (CWDS).

Placement Considerations

A VSE/ESA virtual disk or other high-speed disk is recommended for a separate JOBQ.

Configuration Options

Specify the DLBL name in the JQNAME configuration option

Formatting the JOBQ

It is not necessary to format a separate JOBQ. BIM-EPIC formats it at start-up.

Defining the BIM-EPIC Resource Dataset (ERD)

Introduction

Description

An ERD file is required when utilizing an ACL or for sharing tape devices among multiple VSE machines (physical or virtual).

When utilizing ACL's or sharing tape device among multiple VSE machines (physical or virtual), a Unit Control Block (UCB) must be created for each tape device (reel or cartridge type) that is accessible by BIM-EPIC. UCBs contain device number and attribute information that BIM-EPIC needs for device allocation and deallocation. They are located in the BIM-EPIC Resource Dataset (ERD).

An ERD should not be defined for a single-image system without an ACL device.

The ERD provides a single repository of tape characteristics and ownership information. Only one ERD is used in a tape-sharing environment. For example, if CPU A, CPU B, and CPU C are sharing a group of tape devices, only one ERD needs to be created. BIM-EPIC programs running on these CPUs will all use this ERD.

Space Requirements

The file can reside on CKD or FBA devices. The size requirements for the ERD are:

Device Type	Size
FBA	224 blocks
CKD	7 tracks

Configuration Options

The ERDFILE configuration option must be used to identify the DTF name for the ERD.

Formatting the ERD

The ERD is formatted and maintained using the TSIDSMNT program.

The TSIDSMNT Program

Description

The TSIDSMNT program provides ERD file definition, maintenance and reporting functions. TSIDSMNT can be executed from an operator console or by using JCL.

Control Statements

TSIDSMNT control statements can begin in any column. Any information after the end of the parameter list is treated as comments.

Five control statements are used in TSIDSMNT processing.

Control Statement	Action
ADD	Adds a UCB definition to the ERD
CTL	Provides the name of the ERD
DEL	Deletes a UCB definition from the ERD
FMT	Creates the ERD
PRT	Prints the ERD
ACLOFFL	Sets all cuu's in an ACL to "offline" status
ACLONL	Sets all cuu's in an ACL to "online" status

ACLOFFL

Description

The ACLOFFL statement is used to set all cuu's within an ACL to an "offline" status. They will remain in this status until an ACLONL statement is processed.

While in this status, the cuu's will not be available for EPIC processing. This means Mounts, Set SCRATCH/PRIVATE, EJECT Volume and SYNC commands will not be processed for this ACL.

Reasons for using this statement include such things as an ACL is down for maintenance or malfunctioning.

Syntax

```
ACLOFFL  aclname
```

Parameters

aclname is the name of this ACL that was used on TSIDSMNT ADD statements.

ACLONL

Description

The ACLONL statement is used to set all cuu's within an ACL to an "online" status.

This is the usual status and is set whenever BIM-EPIC is initialized. The TSIDSMNT ACLOFFL statement can be used to remove the ACL from BIM-EPIC access.

Syntax

```
ACLONL  aclname
```

Parameters

aclname is the name of this ACL that was used on TSIDSMNT ADD statements.

ADD

Description

An ADD control statement is required for each UCB definition that is added to the ERD. There must be one ERD ADD for each tape cuu ADD in the VSE $IPL PROC. If multiple VSE images are using the ERD, then all of the VSE ADD statements must be identical. This is true even if some the devices are not accessible by one or more of the VSE images. The VSE ADD statements must be in ascending sequence in the $IPL PROC.

Syntax

```
ADD UCB=cuu,DEV=iplcode[,FEAT=fcode][,ACLNAME=aclname] [,ACLVEND=x]
                                                    [,ACLNUM=aclnum]
```

Parameters

The UCB and DEV parameters are always required. All other parameters are optional.

cuu is the actual device address of the tape media. If sharing this tape media, it must be known to all sharing systems by this same device address.

iplcode can be any valid tape IPL code, such as 3420, 3480, 3490, or TPA. It must be the same one used on the VSE ADD statement.

fcode is a 1 to 3-character code that specifies any combination of the following features:

Code	Feature
A	Device has an automatic cartridge loader
D	Dual density device
E	3490E device
I	IDRC-capable device
L	Leveling is used in an IBM ACL
T	"Native" 3590 drive Do not define VTS 3590's in the ERD. Define each VTS-owned 3490E drive with Feature Code E.
U	Remove Leveling feature from an IBM ACL

Feature codes *D, E, I, T* are self-explanatory.

Feature Code *A* tells BIM-EPIC that the tape device has an automatic cartridge loader. This is useful in the following scenario: A multi-cartridge input file is being processed, and all of the input cartridges are stacked in the same cartridge loader. When a cartridge is "closed" a RUN is issued and BIM-EPIC scans other drives looking for the next input volser. If the volser is not found and *A* is not specified for the *cuu*, an EP001 MOUNT xxxxx message will be issued. If *A* is specified, BIM-EPIC will wait until the RUN has completed and the next

cartridge loaded. If that cartridge is the desired volser, EP001 is not issued, and the job continues without operator intervention; otherwise EP001 is issued for the volser.

Feature Code *L* applies to IBM ACL's only, and specifies that the ACL named in *ACLNAME* parameter participates in BIM-EPIC's ACL Leveling algorithm. If this code is specified for *any* CUU in an ACL, then that ACL participates in leveling, i.e. there is no need to specify it for each CUU in an ACL This Feature Code is only relevant in a multiple ACL environment. When used, BIM-EPIC will attempt to use each ACL equally for Output mounts. This equalization/leveling process will be most effective in multiple IBM VTS environments.

Feature Code *U* applies to IBM ACL's only, and specifies that the ACL named in *ACLNAME* parameter will have its participation in BIM-EPIC's ACL Leveling algorithm removed. If this code is specified for *any* CUU in an ACL, then that ACL will no longer participate in leveling, i.e. there is no need to specify it for each CUU in an ACL. The code has no meaning unless Feature Code L has previously been specified for an ACL.

aclname is the name of the Automated Cartridge Library (ACL) associated with this *cuu*. It is required when an ADD statement defines an ACL device number (*cuu*).

> For IBM ACLs operating in an LCDD environment, *aclname* must be the LCDD LUNAME. For single IBM ACL's, operating in a VGS environment, it can be any 1-8 character name. If more than one ACL is in the VGS environment, the name must be the same name used in the VSE Library Name portion of the LIBCONFG LIST that is defined to VGS for the ACL this UCB is being defined for.
>
> For Memorex ACLs, the *aclname* must be identical to the 1-8 character name specified in the ACL device microcode. The LMS "D ALL" command can be used to display the value for *aclname*.
>
> For OPTI-TAPE devices, *aclname* must be OPTITAPE
>
> For STK ACLs, *aclname* can be any 1-8 character name the user wishes to use.

aclnum is a device number that identifies the Automatic Cartridge Library. It is required for any ADD statement that defines an ACL device number (*cuu*).

> For IBM ACLs, specify 1 (one). If two or more IBM ACL's are in use (including those logically partitioned for VTS use), use 2, 3, ... for the second, third, … ACL.
>
> For Memorex ACLs, the number must be identical to the number specified in the ACL device microcode. The LMS "D ALL" command can be used to display the values for *aclnum*.
>
> For OPTI-TAPE, specify 1 (one).
>
> For STK ACLs, specify 1 (one).

aclvend is used if more than one vendor's ACL is in use (IBM, Memorex, OPTI-TAPE, or STK). It must not be used if the ACL or ACLs are from the same vendor. *x* is one of these values:

I	IBM
M	Memorex
O	OPTI-TAPE
S	STK

CTL

Description

The CTL control statement is required if TSIDSMNT is run while BIM-EPIC is not active and an ERD already exists.

The CTL control statement must be first in the input stream. The FMT control statement cannot be used when CTL is used.

Syntax

```
CTL [ NAME=dtf-name ]
```

Parameters

dtf-name is a 1 to 7-character DTF name.

DEL

Description

The DEL control statement deletes a UCB definition from the ERD. DEL control statements can be intermixed with ADD control statements in any sequence.

Changing a UCB Definition

If it becomes necessary to change an existing UCB definition, do the following:

1. Delete the existing UCB definition with a DEL statement.
2. Add a new UCB definition with an ADD statement.

Syntax

`DEL UCB=`*`device-number`*

Parameters

`device-number` specifies the address of the device to be deleted.

FMT

Description

The FMT control statement is required to create the ERD. It must be the first statement in the input stream. *Once the ERD is formatted, FMT must not be used again unless the ERD is being recreated.*

Syntax

```
FMT [NAME=filename]
```

Parameters

filename is the 1 to 7-character DTF name of the ERD. The default is IJSYSSP.

PRT

Description

The PRT control statement prints the contents of the ERD on SYSLST. If used, the PRT control statement must not precede a FMT or CTL statement in the input stream.

Syntax

```
PRT
```

Parameters

There are no parameters for this statement.

JCL Examples

Example One

A single CPU is being used. There are eight tape devices, numbered 300 to 307. An ERD is not needed since no device sharing occurs.

Example Two

This example creates the ERD and adds UCB definitions. After the file has been created, the ERD's contents are printed on SYSLST.

The tape device environment is as follows:

- Four 3420 tape devices (300-303), all shared by CPU A and CPU B. Drives have dual-density capability.
- Four 3490E tape devices (400-403) contained within an ACL unit ,all shared by CPU A and CPU B. The ACL Name is ATLJOE, and the ACL Number is 1.
- Two 3480 tape devices (500-501) for use by CPU A only.
- Two 3490 tape devices (600-601) for use by CPU B only. Devices have the IDRC feature.

```
// JOB ERDCREAT
// DLBL ERDFILE,'EPIC.SHARED.RESOURCES.DATASET',2099/366,SD
// EXTENT SYS040,SYS251,,,5000,15
// ASSGN SYS040,DISK,VOL=SYS251,SHR
// EXEC TSIDSMNT
FMT NAME=ERDFILE
ADD UCB=300,DEV=3420,FEAT=D
ADD UCB=301,DEV=3420,FEAT=D
ADD UCB=302,DEV=3420,FEAT=D
ADD UCB=303,DEV=3420,FEAT=D
ADD UCB=400,DEV=3490,FEAT=E,ACLNAME=ATLJOE,ACLNUM=1
ADD UCB=401,DEV=3490,FEAT=E,ACLNAME=ATLJOE,ACLNUM=1
ADD UCB=402,DEV=3490,FEAT=E,ACLNAME=ATLJOE,ACLNUM=1
ADD UCB=403,DEV=3490,FEAT=E,ACLNAME=ATLJOE,ACLNUM=1
ADD UCB=500,DEV=3480
ADD UCB=501,DEV=3480
ADD UCB=600,DEV=3490,FEAT=I
ADD UCB=601,DEV=3490,FEAT=I
PRT
/*
/&
```

Even though devices 500-501 and 600-601 are not shared between CPU A and CPU B, they must still be included in the ERD. *If an ERD is used, all tape devices must be described in it, whether shared or not.*

Example Three

In this example, the ERD name IJSYSSP was used when the ERD was originally defined.

Two additional tape devices are defined.

```
// JOB CREATFIL
// EXEC TSIDSMNT
ADD UCB=304,DEV=3420,FEAT=D
ADD UCB=305,DEV=3420,FEAT=D
/*
/&
```

Example Four

In this example, the ERD name IJSYSSP was not used when the ERD was originally defined. The name ACFERD was used.

One device (305) is being removed and another device (303) is having the dual density feature removed. The ERD's contents are printed after the maintenance has been completed.

```
// JOB ERDMAINT
// EXEC TSIDSMNT
CTL NAME=ACFERD
DEL UCB=303
ADD UCB=303,DEV=3420
DEL UCB=305
PRT
/*
/&
```

Example Five

In this example, the label information is not in the Standard Label Area.

```
// JOB CREATFIL
// DLBL FILE03A,'FILE.FOR.UCB.SHARING'
// EXTENT SYS050,USER01,1,0,3336,6
// ASSGN SYS050,DISK,VOL=USER01,SHR
// EXEC TSIDSMNT
CTL NAME=FILE03A
ADD UCB=300,DEV=3420,FEAT=IED
DEL UCB=402
/*
/&
```

Example Six

In this example, all cuu's in an ACL named ACLPROD1 are set to "offline" status.

```
// JOB OFFLINE
// EXEC TSIDSMNT
ACLOFFL  ACLPROD1
/*
/&
```

Example Seven

In this example, all cuu's in an ACL named ACLPROD1 are set to "online" status.

```
// JOB ONLINE
// EXEC TSIDSMNT
ACLONL  ACLPROD1
/*
/&
```

Example Eight

In this example, ACLs are present from IBM and STK.

```
// JOB ONLINE
// EXEC TSIDSMNT
…
…
ADD UCB=400,DEV=3490,FEAT=E,ACLNAME=ATLJOE,ACLNUM=1,ACLVEND=I
ADD UCB=401,DEV=3490,FEAT=E,ACLNAME=ATLJOE,ACLNUM=1,ACLVEND=I
…
ADD UCB=600,DEV=3490,FEAT=E,ACLNAME=ATLJIM,ACLNUM=1,ACLVEND=S
ADD UCB=601,DEV=3490,FEAT=E,ACLNAME=ATLJIM,ACLNUM=1,ACLVEND=S
…
/*
/&
```

Defining the BIM-EPIC Environment

Creating the TSIDPOL Phase

Description

The TSIDPOL phase is required to enable BIM-EPIC's disk management services and also if you want to use the tape pooling facility.

To create the TSIDPOL phase, you must assemble and link the TSIDPOL and TSIDMAP macros. This is accomplished through six separate tasks in this installation procedure:

- Designing disk pools
- Creating disk pool statements
- Designing tape pools
- Creating tape pool statements
- Specifying the TSIDMAP macro
- Assembling the macros and cataloging the TSIDPOL phase

A sample job stream to assemble and catalog the TSIDPOL phase can be found on page 2-50 and also as member TSIDPOL.Z in the BIM-EPIC installation sublibrary.

WARNING!

If you are upgrading from an earlier release of BIM-EPIC, you must reassemble the TSIDPOL phase.

Activating a New TSIDPOL Phase

You can change the options you specify in the TSIDPOL and TSIDMAP macros at any time. However, since TSIDPOL resides in the SVA, activating a new pool definition while BIM-EPIC is active requires the following procedure:

Step	Action
1	Turn BIM-EPIC off.
2	Execute a SET SDL in the BG partition to reload the new TSIDPOL phase into the SVA.
3	Turn BIM-EPIC back on again.

Example

```
// JOB ACTIVATE NEW TSIDPOL
// EXEC TSIDOFF
SET SDL
TSIDPOL,SVA
/*
// EXEC PROC=EPICON
/&
```

Designing Disk Pools

Description

The TSIDPOL macro defines each disk pool. As you design your disk pools, keep the following in mind:

- Each disk dataset must be assigned to a pool.
- Uncontrolled datasets are allowed in pool areas.
- You can define as many disk pools as you wish.
- Choose disk volumes that have the most contiguous free space for your initial pool(s).
- You can use a whole volume or only a partial volume in a pool. However, you can only define one volume area per pool. If you wish, you can divide the volume into multiple pools.
- Each pool can contain multiple volumes. If you plan to use Start Track 1 datasets, remember that BIM-EPIC must search the VTOC to find the dataset's extents. If you have multiple volumes in the pool, BIM-EPIC searches each volume's VTOC in sequence until it finds the first extent. To improve performance, keep the number of volumes small for pools which will contain Start Track 1 datasets.
- Do not mix device types in a pool. Although BIM-EPIC allows you to do so, VSE does not support it.
- Do not mix disk devices of the same type but different capacities in the same pool. For example, do not put 3380 single, dual and triple-density volumes (or any combination of these) in the same pool. If a pool is to contain VM mini-disks, all the disks in the pool must be of the same size. If you do not observe this rule, you may find that VSE is unable to process some multi-extent files.
- Leveling is activated by pool.
- Disk pools can be shared by any number of partitions or CPUs.
- Disk pools can also be shared between multiple real and virtual VSE machines if you define a VSE LOCK file and add the volumes to VSE as SHR. See 2-68 for details.
- If you share your DSN Catalog between machines, you must also share the volumes in your disk pools between your VSE machines. However, you are not required to share your pools. You can create a separate TSIDPOL phase for any machine. Simply place the TSIDPOL phase in a library which is searched before the library in which you have installed BIM-EPIC.
- You can deactiavte a specific volume in a pool at any time by using the OFFLINE function of TSIDMNT. If a pool volume is in VSE's "device down" (DVCDN) status, you must place it offline to BIM-EPIC. You can reserve a volume for future use as a BIM-EPIC pool volume. To do this, define the volume in the TSIDPOL macro and place it offline. BIM-EPIC ignores the volume until you place it online again with the ONLINE function of TSIDMNT.

Procedure

Step	Action
1	Obtain a VTOC listing of all potential pool volumes. For each pool, perform the steps below.
2	Choose the pool name and write it on the Disk Pool Worksheet. Pools are referenced by six-character names. Use a real volume serial number or any other six-character name for a disk pool. Write "alias" pool names on the worksheet. Using aliases helps to avoid JCL changes. Existing JCL can reference real disk volume serial numbers, and BIM-EPIC considers those references to be pool names. By making each volume serial number an alias for the pool that contains the actual volume, the JCL will automatically refer to the correct pool. An alias can also be used to easily change a pool name once it has become established in the system.
3	Choose the disk volumes for the pool and write each volume serial number on the worksheet.
4	When you cannot use an entire volume in a pool area, write the starting and ending address of the space to use next to the volume serial number on the worksheet. Remember that a specific volume can be defined only once in a given pool. If you want to pool multiple areas on a volume, you must place each area on that volume in a separate pool.

Creating Disk Pool Statements

Description

Disk pools can be defined using the following syntax. A separate TSIDPOL statement is required for each disk pool.

Syntax for Disk Pools

```
[poolname] TSIDPOL (volser1[,start1][,end1][,vol-restriction])
                [,(volser2[,start2][,end2][,vol-restriction])]
                [,LEVEL=YES|NO]
                [,POLNAME=numeric-poolname]
```

You can also define pool name aliases if you wish, as shown below.

Syntax for Alias Pool Names

```
alias-name TSIDPOL EQU=poolname
```

Parameters

Parameter	Required?	Values	Default
poolname	For alpha	6 characters	None
volser	Yes	6 characters	None
start	No	valid address	None
end	No	valid address	None
vol-restriction	No	QUIESCE or OFFLINE	None
LEVEL	No	YES or NO	NO
numeric-poolname	For numeric	6 digits	None
alias-name	For alias	6 characters	

poolname specifies an alphanumeric pool name. For numeric pool names, use the POLNAME parameter instead.

volser specifies the six-character serial number of a real disk volume. The remaining parameters are optional but positional, so if one is skipped, its comma must be specified; only trailing commas can be omitted. The parameters for each disk volume must be enclosed in a set of parentheses. You can specify the same volume serial number only once per pool. You can specify as many volsers as you like on a single statement, subject to the VSE Assembler rules for macros.

start specifies track or block where the pool area begins. If omitted, the pool area begins at the lowest address on the volume.

end specifies the track or block where the pool area ends. If omitted, the pool area ends at the highest address on the volume.

If start and end track or block addresses are not specified, they will appear as 0 and 15728641 on the TAID transaction's pool display panel and on the TSIDDEB Summary Report until the first allocation occurs on the volume after an IPL. The first allocation forces BIM-EPIC to read the volume's VTOC and set the start and end track or block addresses based on the volume's actual capacity.

vol-restriction can be used to place the volume in QUIESCE or OFFLINE status. If QUIESCE is specified, BIM-EPIC will provide access to existing files on this volume but will not allocate any new files to the volume. If OFFLINE is specified, BIM-EPIC will not provide access to any files on this volume. You can also place a volume in QUIESCE or OFFLINE status with TSIDMNT or Online Manager. Volumes can be placed online again using the ONLINE function.

LEVEL specifies whether leveling is active for the pool.

POLNAME=*numeric-poolname* must be used to specify a pool name such as 111111. If you use POLNAME=*numeric-poolname*, do not specify the *poolname* label before TSIDPOL.

alias-name is used to specify an alias name for a pool.

Examples

The following example specifies that the areas from tracks 1 through 5000 on volume SYSWK2, and from tracks 1 through 9500 on SYSWK3 will make up the pool known as POOL01.

```
POOL01 TSIDPOL (SYSWK2,1,5000),(SYSWK3,1,9500),LEVEL=YES
```

The following example specifies that all space from track 1000 through the end of the volume on volume WORK09, all space on volume WORK10, and all space on volume WORK11 will make up the pool known as POOL02.

```
POOL02 TSIDPOL (WORK09,1000),(WORK10),(WORK11),LEVEL=YES
```

The following example defines alias names for POOL02 so that JCL references to POOL02 can be made with these names. By choosing pool aliases that are the same as the volsers used to define POOL02, JCL that used to reference volsers can now reference entire pools.

```
WORK09 TSIDPOL EQU=POOL02
WORK10 TSIDPOL EQU=POOL02
WORK11 TSIDPOL EQU=POOL02
```

Designing Tape Pools

Description

Tape pooling is a useful feature designed to enable additional control of tape libraries. Using tape pooling, a dataset can be restricted to a particular set of tapes. For example, the dataset 'BACKUP.TAPE' could be limited to volume serial numbers within the range 990000 to 999000. Some reasons for using this extra form of control include:

- Restricting datasets to tapes of a specific size
- Reserving volumes for backup use
- Reserving volumes for offsite shipment
- Reserving volumes for unlabeled files

When a tape pool is specified as part of a dataset definition, BIM-EPIC only allows output for that dataset on tapes in the specified pool. Conversely, when a dataset is defined without a tape pool, BIM-EPIC prevents output for that dataset on all pool tapes.

Configuration Options

Tape pooling requires the use of the TAPPOL configuration option. See 5-25 for more information.

Rules for Tape Pools

As you design your tape pools, keep the following in mind.

- Tape pools are optional. Datasets assigned to a tape pool can only be created on tape volumes that belong to that pool. Datasets not assigned to a pool can only be created on tape volumes that do not belong to *any* pool.
- Up to 36 tape pools are allowed. A tape pool is identified by a single alphanumeric character (A-Z or 0-9).
- A tape pool is defined with volume serial number ranges which can be alphanumeric. A single pool can contain multiple volume serial number ranges.
- If ACL's are supported, one or more BIM-EPIC tape pools can be defined for ACL-resident tape volumes. See Chapter 5 discussion for your vendors ACL support.

Procedure

Step	Action
1	Write the name of each tape pool on the Tape Pool Worksheet.
2	Write the low and high volume serial numbers for each range of each pool.

Creating Tape Pool Statements

Description

Tape pools are defined using the TSIDPOL macro.

All tape pools which will be active concurrently must be specified on the same TSIDPOL macro. Each TSIDPOL macro defines a **tape pool group**. When BIM-EPIC is started, only one tape group can be active; all others are ignored.

When you assemble the TSIDPOL phase, tape pool statement(s) must be placed after all disk pool statements.

Syntax

```
tappol TSIDPOL (poolname,low-volser,high-volser[,aclname]),TAPE=YES
```

Parameters

Parameter	Required?	Values	Default
tappol	Yes	6 characters	None
poolname	Yes	1 character	None
low-volser	Yes	6 characters	None
high-volser	Yes	6 characters	None
aclname	No	1-8 characters	None

tappol specifies a group name to identify the tape pools on the TSIDPOL macro. Write this name as the TAPPOL configuration option on the worksheet.

poolname specifies the name of the tape pool. Valid tape pool names are one character: A-Z or 0-9. Repeat this name with each range if the pool has multiple ranges.

low-volser specifies the lowest volume serial number in the range.

high-volser specifies the highest volume serial number in the range.

aclname is the name of the ACL that will have tapes in this pool range. It must be the same name used in the EPIC Resource Dataset (ERD) ADD statement. Before using this parameter, be sure to read the information in the *Tape Pools and ACL's* portion of *BIM-EPIC ACL SUPPORT* topic in this manual.

TAPE=YES is required to distinguish tape pools from disk pools. It is specified only once.

Examples

The following example specifies that tape volumes 005000 through 005500 belong to tape pool W.

```
POOLW  TSIDPOL (W,005000,005500),TAPE=YES
```

The following example specifies that tape volumes PR0001 through PR9999, and PY0001 through PY0200, belong to tape pool P.

```
POOLP  TSIDPOL  (P,PR0001,PR9999),(P,PY0001,PY0200),TAPE=YES
```

The following example specifies that the tape volumes 010000 through 019999 belong to tape pool K, and tape volumes 020000 through 029999 belong to tape pool L. Tape pools K and L belong to tape pool group POOL2.

```
POOL2  TSIDPOL (K,010000,019999),(L,020000,029999),TAPE=YES
```

The following example specifies that tape volumes SR1234 through SR9999 belong to tape pool C and reside in ACL B1VTS, that tape volumes JC4455 through JC5599 belong to tape pool F and reside in ACL B2VTS, and that tape volumes PR0001 through PR9999 belong to tape pool P and do not reside in an ACL.

```
POOLX  TSIDPOL (C,SR1234,SR9999,B1VTS),(F,JC4455,JC5599,B2VTS),(P,PR0001,PR9999)
```

Specifying the TSIDMAP Macro

Description

The TSIDMAP macro is always required when specifying pools. It specifies:

- DTF names that must be uncontrolled (ignored by BIM-EPIC)
- DTF names for which LUB allocation must be inhibited
- Programs for which LUB allocation must be inhibited (this affects every dataset the program opens)
- The size of the work area to be used to map disk devices.

See Chapter 1 of the BIM-EPIC *User Reference* for an explanation of BIM-EPIC LUB allocation.

Syntax

```
TSIDMAP [ nnn ]
        [,ILIST=(dtfname,dtfname,...)  ]
        [,NLUBDTF=(dtfname,dtfname,...)]
        [,NLUBPGM=(program,program,...)]
        [,RBLKPGM=(program,program,...)]
         ,END=YES
```

Parameters

Parameter	Required?	Values	Default
nnn	No	300-32767	300
ILIST	No	1 to 7 characters	None
NLUBDTF	No	1 to 7 characters	None
NLUBPGM	No	1 to 8 characters	None
RBLKPGM	No	1 to 8 characters	None
END	Yes	YES	None

nnn indicates the maximum number of unexpired extents to support on any controlled disk volume in any defined pool. BIM-EPIC uses this number to reserve space in the VSE Partition GETVIS area for the map table it uses to allocate disk datasets. If the map table capacity is exceeded during allocation processing, BIM-EPIC cancels the job.

The number you specify should be at least 300. Generally, a map specification of 800 is sufficient for large devices (for instance, FBA or 3380). However, because 255 extents per file are supported, underallocated files that are allowed to fragment could easily fill an inadequate map table capacity. So be generous! If you use more than one TSIDMAP macro statement, specify this parameter only on the first one.

For ILIST, NLUBDTF, and NLUBPGM: You can specify up to 31 items per parameter. Use multiple TSIDMAP statements if you want to specify more than 31 items. These parameters are mutually exclusive. Use separate TSIDMAP macro statements to specify each one.

ILIST specifies the DTF names that BIM-EPIC should ignore. Datasets processed with these DTF names are uncontrolled. This list should include the names of the BIM-EPIC system files, including the DSN Catalog(s) (default IJSYSDS) and the Recorder File (IJSYSDR), and VSE system files, such as IJSYSRS, IJSYSRC, and the names of POWER files such as IJQFILE and IJDFILE, and names of MSHP History Files.

NLUBDTF specifies DTF names for which LUB allocation is to be inhibited. BIM-EPIC automatically inhibits LUB allocation for the following DTF names:

- UIN
- UOUT
- IJSYSxx
- SYS000
- SORTxxx (unless TSIDSRT is executed inplace of SORT)

NLUBPGM specifies program names for which LUB allocation is to be inhibited. We suggest that you specify programs known to use physical IOCS (PIOCS).

RBLKPGM specifies the names of programs that reblock files using an undefined record format.

END=YES must be specified on the last TSIDMAP macro statement.

Procedure

Step	Action
1	Decide which DTF names should not be controlled by BIM-EPIC. Write them on the TSIDMAP worksheet.
2	Decide which DTF names and programs should not use BIM-EPIC's LUB allocation. Write them on the TSIDMAP worksheet.
3	Specify your TSIDMAP macro statements using the format above.

Place TSIDMAP statements after all TSIDPOL statements. You must use at least one TSIDPOL statement.

Assembling the Macros

The TSIDPOL and TSIDMAP macros must be assembled and linked together to create the TSIDPOL phase. *If you will be using BIM-EPIC only for tape management, and you will not be using tape pools, the TSIDPOL phase is not required.*

TSIDPOL must reside in the SVA.

Activating a New TSIDPOL Phase

You can change the options you specify in the TSIDPOL and TSIDMAP macros at any time. However, since TSIDPOL resides in the SVA, activating a new pool definition while BIM-EPIC is active requires the following procedure:

Step	Action
4	Turn BIM-EPIC off.
5	Execute a SET SDL in the BG partition to reload the new TSIDPOL phase into the SVA.
6	Turn BIM-EPIC back on again.

Example

```
// JOB ACTIVATE NEW TSIDPOL
// EXEC TSIDOFF
SET SDL
TSIDPOL,SVA
/*
// EXEC PROC=EPICON
/&
```

TSIDPOL Example

```
* $$ JOB JNM=TSIDPOL,LDEST=(,USERID)
// JOB TSIDPOL
*
* THIS IS SAMPLE JCL TO ASSEMBLE THE TSIDPOL AND TSIDMAP MACROS FOR
* CATALOGING TO THE BIM-EPIC SUBLIBRARY AS THE TSIDPOL PHASE.  MODIFY
* THE EXAMPLE TO SUIT YOUR INSTALLATIONS REQUIREMENTS.  CONSULT THE
* BIMEPIC INSTALLATION AND SYSTEM GUIDE FOR AN EXPLANATION OF ALL THE
* PARAMETERS FOR THESEMACROS.  VALUES SURROUNDED BY ASTERISKS NEED TO
* BE MODIFIED.
*
// LIBDEF PHASE,CATALOG=*LIB.SUBLIB*   EPIC INSTALL LIBRARY
// LIBDEF *,SEARCH=*LIB.SUBLIB*        EPIC INSTALL LIBRARY
// OPTION CATAL
// EXEC ASSEMBLY
*********************************************************************
*  POOL01 CONTAINS ALL OF VOLUMES *VOL1* AND *VOL2*                 *
*********************************************************************
POOL01   TSIDPOL (*VOL1*),(*VOL2*)
*********************************************************************
*  POOL02 IS THE SAME AS POOL01.  THEREFORE, THE POOL01 AND POOL02  *
*  NAMES MAY BE USED INTERCHANGEABLY AS POOL NAMES.                 *
*********************************************************************
POOL02   TSIDPOL EQU=POOL01
*********************************************************************
*  POOL03 CONTAINS *VOL1* FROM TRACK 15 TO 13274 AND *VOL2* FROM    *
*  TRACK 15 TO 13274.  LEVELING WILL BE PERFORMED ON POOL03.        *
*********************************************************************
POOL03   TSIDPOL (*VOL1*,00015,13274),                              X
               (*VOL2*,00015,13274),                                X
               LEVEL=YES
*********************************************************************
*  POOL04 CONTAINS *VOL3* FROM TRACK 30 TO 16619 AND *VOL4* FROM    *
*  TRACK 30 TO 16619.  LEVELING WILL BE PERFORMED ON POOL03.        *
*********************************************************************
POOL04   TSIDPOL (*VOL3*,00030,16619),                              X
               (*VOL4*,00030,16619),                                X
               LEVEL=YES
*********************************************************************
*  POOL05 IS THE SAME AS POOL04.  THEREFORE, THE POOL04 AND POOL05  *
*  NAMES MAY BE USED INTERCHANGEABLY AS POOL NAMES.                 *
*********************************************************************
POOL05   TSIDPOL EQU=POOL04
*********************************************************************
*  *VOL1* IS DEFINED AS A SINGLE PACK POOL USING ALL AVAILABLE SPACE *
*  FROM THE FIRST TO THE LAST TRACK (OR BLOCK.)                     *
*********************************************************************
*VOL1*   TSIDPOL (*VOL1*)
*********************************************************************
*  TAPPOL SPECIFIED THAT ANY TAPE DATASET CATALOGED WITH TPL=A CAN   *
*  ONLY VOLSERS IN THE RANGE 990000 THROUGH 990100 INCLUSIVE.       *
*********************************************************************
TAPPOL   TSIDPOL (A,990000,990100),TAPE=YES
*********************************************************************
*  CONSULT THE EPIC/VSE INSTALLATION AND MAINTENANCE GUIDE FOR      *
*  EXPLANATIONS OF THE TSIDMAP PARAMETERS.                          *
*********************************************************************
         TSIDMAP *400*
         TSIDMAP ILIST=(*ENTRY1*,*ENTRY2*,...)
         TSIDMAP ILIST=(*ENTRYA*,*ENTRYB*,...)
         TSIDMAP NLUBPGM=(*PROGX*)
         TSIDMAP NLUBDTF=(*NLUBDTF*,*NLUBTAP*)
         TSIDMAP END=YES
```

```
         END
/*
// EXEC LNKEDT
/&
* $$ EOJ
```

Quick DASD Allocation System (QDAS)

Introduction

Description

The BIM-EPIC **Quick DASD Allocation System (QDAS)** maps disk space usage in virtual storage to drastically decrease the number of I/O operations required to allocate an output disk extent, thus improving your system's performance. Because of the potential performance advantage, we recommend that you activate QDAS in all your VSE machines in which BIM-EPIC will be used.

Only disk volumes that are defined to BIM-EPIC pools can realize a performance improvement when defined to QDAS.

See Chapter 1 of the BIM-EPIC *User Reference* for more information about QDAS.

Sharing Disk Volumes

If your disk volumes are available to multiple VSE machines, you must:

- Create a QDAS Share File for each shared volume.
- Activate QDAS in every machine that shares the volume.

WARNING!

Failure to meet either of the requirements above can result in disk dataset corruption.

Creating QDAS Share Files

Description

The Share File allows QDAS to access and update its space usage map from multiple machines. A Share File is required for each volume that has been defined to QDAS and is accessed by more than one machine. TSIVCLR initializes the Share Files. Sample JCL can be found in the BIM-EPIC installation sublibrary as TSIVCLR.Z.

The name of each Share File in a VTOC is *volid*.QDAS.RELx.SHARE.FILE where *volid* is the volume serial number of the QDAS-controlled volume. The Share File is given an expiration date of 2099/366 (permanent retention).

Initialize a Share File for each shared volume with the TSIVCLR utility, as shown below.

```
// DLBL TSIVFLE,'volid.REL4.SHARE.FILE'
// EXTENT SYSnnn,volid,1,0,n,1
// ASSGN SYSnnn,DISK,VOL=volid,SHR
// EXEC TSIVCLR
MAP=nnnnn
/*
```

You must define the QDAS Share File with a DLBL statement, using the DTF name TSIVFLE. You can specify any dataset name; TSIVCLR assigns the actual name in the format shown above.

Use standard complete EXTENT and ASSGN statements to complete the definition of TSIVFLE.

DASD Space Requirement for the File

CKD	1	track
FBA	96	blocks

To minimize arm movement, we recommend that the file be created close to the VTOC.

WARNING!

Failing to create a QDAS Share File on a shared volume may result in disk dataset corruption on that volume.

BIM-EPIC Release 6.3 allows MAP= values greater than the previous maximum of 2044. QDAS Share Files created prior to the 6.3 release can be used by 6.3, and QDAS Share Files created under Release 6.3 can be shared between CPU's using 6.3 and CPU's using earlier releases as long as a Share File created under Release 6.3 does not have a MAP= value larger than 2044. If a QDAS Share File is created under Release 6.3 with a MAP= value larger than 2044, that file and the DASD it controls ***CANNOT*** *be shared with BIM-EPIC releases prior to Release 6.3. File and VTOC corruption are guaranteed if this rule is not observed.*

Control Statements

The required MAP control statement specifies the number of VTOC entries (active extents) that the QDAS Share File supports. Its value must not be less than the value of the TSIVDEF MAP parameter for the same volume (see below).

Syntax

MAP=*nnnn*

MAP Parameter

Parameter	Required?	Values	Default
MAP	Yes	1- nnnn	None

nnnn – maximum number of MAP entries. Maximum depends on DASD device type.

DASD	Maximum
3380	5932
3390	7081
9345	5805
FBA	4094

SVA Usage

QDAS mapping information is kept in 31 bit System GETVIS. To calculate the amount required, refer to the *Determining Space Requirements* section of the manual.

Example

In the example below, TSIVCLR creates a Share File on SYS2A1 at track 30 with the dataset name SYS2A1.QDAS.RELx.SHARE.FILE which supports 300 extents.

```
// JOB TSIVCLR
// DLBL TSIVFLE,'QDAS.SHARE.FILE'
// EXTENT SYS040,SYS2A1,1,0,30,1
// ASSGN SYS040,DISK,VOL=SYS2A1,SHR
// EXEC TSIVCLR
MAP=300
/&
```

Defining Disk Volumes to QDAS (TSIVDEF)

Description

You define volumes to QDAS with the TSIVDEF macro. Sample JCL can be found on page 2-56 and as the TSIVDEF.Z member in the BIM-EPIC installation sublibrary.

Syntax

```
TSIVDEF VOL=volser,MAP=n,SHARE={NO|YES} ,LAST={NO|YES}
```

Parameters

Parameter	Required?	Values	Default
VOL	Yes	6 characters	None
MAP	Yes	1-32767 (7081 or smaller if shared. Refer to DASD types, above)	None
SHARE	No	NO or YES	NO
LAST	No	NO or YES	NO

VOL specifies the volume serial number of the disk volume to be placed under QDAS control.

MAP specifies the maximum number of extents (not files) to support on the disk volume being defined. If the number of extents on the volume ever exceeds the number you specify here, QDAS issues an error message, and the volume is removed from QDAS control.

SHARE indicates whether this volume is to be shared by multiple VSE machines. If YES, you must create the QDAS Share File for the volume (see above), and all machines accessing the volume must use QDAS.

LAST indicates whether this is the last volume to be defined to QDAS. Specify LAST=YES on the statement that defines the last volume.

WARNING!

When SHARE=YES, the TSIVDEF MAP value must not be greater than the TSIVCLR MAP value for the same volume. In addition, the TSIVDEF MAP value for any QDAS-controlled volume must not be greater than the TSIDMAP value in the TSIDPOL disk pool definition phase. See 2-47 in this manual for more information.

If Share Files created under BIM-EPIC Release 6.3 are to be shared with VSE CPU's that use BIM-EPIC 6.2 or earlier, refer to the WARNINGS in the "Creating QDAS Share Files" section, above

TSIVDEF Example

```
* $$ JOB JNM=TSIVDEF,LDEST=(,USERID)
// JOB TSIVDEF
*
* THIS IS SAMPLE JCL TO ASSEMBLE THE TSIVDEF MACROS FOR CATALOGING TO
* THE BIM-EPIC SUBLIBRARY AS THE TSIVDEF PHASE.  MODIFY THE EXAMPLE TO
* SUIT YOUR INSTALLATIONS REQUIREMENTS.  CONSULT THE BIM-EPIC
* INSTALLATION AND SYSTEM GUIDE FOR AN EXPLANATION OF ALL THE
* PARAMETERS FOR THESE MACROS.  VALUES SURROUNDED BY ASTERISKS NEED TO
* BE MODIFIED.
*
// LIBDEF PHASE,CATALOG=*LIB.SUBLIB*   EPIC INSTALL LIBRARY
// LIBDEF *,SEARCH=*LIB.SUBLIB*        EPIC INSTALL LIBRARY
// OPTION CATAL
// EXEC ASSEMBLY
*********************************************************************
*  VOL=   - THE VOLUME TO BE DEFINED                                *
*  MAP=   - THE MAXIMUM NUMBER OF EXTENTS ALLOWED ON THE VOLUME     *
*  SHARE= - IS THIS VOLUME SHARED?  IF SO, BE SURE TO RUN TSIVCLR   *
*           TO CREATE THE 'QDAS.SHARE.FILE' ON THE VOLUME.          *
*  LAST=  - IS THIS THE LAST VOLUME TO BE DEFINED TO QDAS?          *
*********************************************************************
          TSIVDEF VOL=*VOL1*,MAP=*400*,SHARE=YES
          TSIVDEF VOL=*VOL2*,MAP=*400*,SHARE=YES
          TSIVDEF VOL=*VOL3*,MAP=*400*,SHARE=YES
          TSIVDEF VOL=*VOL4*,MAP=*400*,SHARE=YES
          TSIVDEF VOL=*VOL5*,MAP=*400*,SHARE=YES,LAST=YES
          END
/*
// EXEC LNKEDT
/&
* $$ EOJ
```

Updating the ASI Procedure

This section describes several changes that need to be made to your ASI procedure. After you have made these changes, recatalog your ASI procedure.

Partition Updates

Description

Permanent assignments for SYSLNK and SYS001-SYS007 must point to one of the volumes in the disk pool used for compiler and SORTWK areas. These assignments are designed to satisfy the pre-open requirements for the compilers and SORTWK packages. Use the EPICPAGN.Z sample JCL to aid in accomplishing this requirement.

In addition, the lib.sublib where BIM-EPIC is installed must be added to the LIBDEF search chain.

Modifying Standard Labels

Description

Define your compiler and sort work areas using BIM-EPIC's Common Work Dataset (CWDS) feature (see Chapter 7 in the *User Reference*). The EPICCWDS.Z sample JCL can be used for this purpose.

You must add labels for the DSN Catalog, Recorder File, BIM-EPIC Resource Dataset (if used), and separate JOBQ (if used) to the VSE Standard Label Area. We also strongly recommend that you also add labels for your compiler and sort work areas.

Procedure

Step	Action
1	Locate your STDLABEL procedure.
2	Create a DLBL and EXTENT for the DSN Catalog, Recorder File, separate JOBQ (if used), BIM-EPIC Resource Dataset (if used), and for your compiler and sort work areas. The EPICSTDL.Z sample JCL member contains sample standard labels for these files. For the DSN Catalog, Recorder File, BIM-EPIC Resource Dataset (if used), and separate JOBQ (if used), specify the disk volume serial number but omit the SYS number. Use the same dataset names for the DSN Catalog, Recorder File, BIM-EPIC Resource Dataset (if used), and those used when these files were created.

DTF Names

The default DTF name for the DSN Catalog is **IJSYSDS**. If necessary, you can change this by using the DSNAME configuration option.

The DTF name for the Recorder File must be **IJSYSDR**.

There is no default DTF name for the separate JOBQ file. The JQNAME configuration option must be used to specify one. We suggest using **IJSYSJQ** as the DTF name for the separate JOBQ file.

There is no default DTF name for the BIM-EPIC Resource Dataset. The ERDFILE configuration option must be used to specify one. We recommend using IJSYSSP (the TSIDSMNT default).

Always record any DTF name changes on the Configuration Options Worksheet.

Work Files

Provide “short” EXTENT statements for all compiler work files and SORTWK files.

CKD Example

```
// OPTION STDLABEL
// DLBL IJSYSDS,'EPIC.VSE.CATALOG',2099/366
// EXTENT ,TSI150,1,0,3750,90
// DLBL IJSYSDR,'EPIC.VSE.RECORDER',2099/366
// EXTENT ,TSI158,1,0,3900,57
// DLBL IJSYSSP,'EPIC.RESOURCE.DATASET',2099/366
// EXTENT ,TSI161,1,0,3840,10
// DLBL IJSYSJQ,'EPIC.VSE.JOBQ',2099/366
// EXTENT ,TST160,1,0,1300,5
// DLBL IJSYSLN,'$$$.IJSYSLN'
// EXTENT SYSLNK
// DLBL IJSYS01,'$$$.IJSYS01'
// EXTENT SYS001
// DLBL IJSYS02,'$$$.IJSYS02'
// EXTENT SYS002
// DLBL IJSYS03,'$$$.IJSYS03'
// EXTENT SYS003
// DLBL IJSYS04,'$$$.IJSYS04'
// EXTENT SYS004
// DLBL IJSYS05,'$$$.IJSYS05'
// EXTENT SYS005
// DLBL IJSYS06,'$$$.IJSYS06'
// EXTENT SYS006
// DLBL IJSYS07,'$$$.IJSYS07'
// EXTENT SYS007
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXTENT SYS001
```

FBA Example

```
// OPTION STDLABEL
// DLBL IJSYSDS,'EPIC.VSE.CATALOG',2099/366,,CISIZE=4096
// EXTENT ,TSI150,1,0,3750,1024
// DLBL IJSYSDR,'EPIC.VSE.RECORDER',2099/366,,CISIZE=2048
// EXTENT ,TSI158,1,0,3900,1024
// DLBL IJSYSSP,'EPIC.RESOURCE.DATASET',2099/366
// EXTENT ,TSI161,1,0,3840,96
// DLBL IJSYSJQ,'EPIC.VSE.JOBQ',2099/366,,CISIZE=2048
// EXTENT ,TST160,1,0,1300,96
// DLBL IJSYSLN,'$$$.IJSYSLN'
// EXTENT SYSLNK
// DLBL IJSYS01,'$$$.IJSYS01'
// EXTENT SYS001
// DLBL IJSYS02,'$$$.IJSYS02'
// EXTENT SYS002
// DLBL IJSYS03,'$$$.IJSYS03'
// EXTENT SYS003
// DLBL IJSYS04,'$$$.IJSYS04'
// EXTENT SYS004
// DLBL IJSYS05,'$$$.IJSYS05'
// EXTENT SYS005
// DLBL IJSYS06,'$$$.IJSYS06'
// EXTENT SYS006
// DLBL IJSYS07,'$$$.IJSYS07'
// EXTENT SYS007
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXTENT SYS001
```

Step 3

Define the work files to the DSN Catalog using TSIDMNT or Online Manager (see Chapters 2 and 3 of the *User Reference*).

Example

```
// EXEC TSIDMNT
 CAT '$$$.IJSYSLN',WRK=YES,POL=POOL01,EXT=200
 CAT '$$$.IJSYS01',WRK=YES,POL=POOL01,EXT=200,SYS001
 CAT '$$$.IJSYS02',WRK=YES,POL=POOL01,EXT=200,SYS002
 CAT '$$$.IJSYS03',WRK=YES,POL=POOL01,EXT=200,SYS003
 CAT '$$$.IJSYS04',WRK=YES,POL=POOL01,EXT=200,SYS004
 CAT '$$$.IJSYS05',WRK=YES,POL=POOL01,EXT=200,SYS005
 CAT '$$$.IJSYS06',WRK=YES,POL=POOL01,EXT=200,SYS006
 CAT '$$$.IJSYS07',WRK=YES,POL=POOL01,EXT=200,SYS007
 CAT '$$$.SORTWK1',WRK=YES,POL=POOL01,EXT=200
/*
```

Adding a Dummy Tape Device and Modifying Tape Modes

Description

If you use BIM-EPIC's tape management, you must define a dummy (non-existent) tape device. The TSIDASS utility uses this dummy device to satisfy the pre-open checking that is done by many generalized utility programs, such as SORT.

WARNING!

Do not issue the VSE DVCUP command for this tape device; errors will occur.

Step1

Locate the ADD statements in your ASI procedure.

Step 2

Add a PUB entry for a dummy tape device. For example:

```
ADD F00,3420T9
```

Any valid tape device type (and mode) can be specified. The dummy tape device is only referenced by programs that do pre-open checking to determine device category (tape, disk, printer, and so on). The actual tape device is selected by BIM-EPIC based on the mode requested when a program issues an OPEN request.

Step 3

Write the dummy device address you used on your configuration option worksheet (the TAPCUU option).

Step 4

For dual density tape drives, specify the highest available mode setting on the ADD statement that defines the drive. For example:

```
ADD 880:884,3420T9,D0          (6250 BPI on a 1600/6250 drive)
```

Updating SVA Size

Description

BIM-EPIC automatically loads its modules into appropriate 24-bit or 31-bit SVA. Refer to 2-7 in this manual and if needed, change the parameters on the SVA statement in your IPL procedure, as shown below.

Procedure

Step	Action

1	Display the SVA free space and SDL entries using the following:
	`// EXEC LIBR`
	`LISTDIR SDL`
	`/*`
	
	If the SVA size must be increased, update the PSIZE value on the SVA statement in your ASI procedure.

2	If ACL support is being used, add 33K.
3	Using the listing produced in Step 1, determine if the number of current SDL entries + 40 exceeds the SDL value on the SVA statement. If the number of entries needs to be increased, increase the SDL value on the SVA statement accordingly.

GETVIS Considerations

Increasing System GETVIS

BIM-EPIC acquires storage for its tables and some modules from system 24-bit and 31-bit GETVIS. Refer to “Determining Space Requirements" to determine required system GETVIS and update the GETVIS parameter on the SVA statement in your IPL procedure.

Increasing Partition GETVIS

BIM-EPIC acquires Partition GETVIS for task dependent data. We recommend that you permanently increase the Partition GETVIS in each partition.

Use the following formula to determine BIM-EPIC’s Partition GETVIS requirements:

```
BIM-EPIC Partition GETVIS = 26K+(n * 8)
```

where *n* is the number specified for the map table size in the TSIDMAP macro. While this calculation is sufficient for most installations, yours may require more. Optional file reblocking also requires Partition GETVIS.

Decrease the VSE SIZE parameter for each partition in the ASI procedure by the number you calculated above, or increase the size of the partition by that number.

Dynamic Space GETVIS

Refer to “Determining Space Requirements". If you use IPF dialog panels, the dynamic space GETVIS size can be increased using the Maintain Dynamic Partitions panel. If you are not using the IPF dialog panels, you can update the dynamic space GETVIS size by updating the DTR$DYNC procedure. The default member is included in the VSE/ESA system library (IJSYSRS.SYSLIB) as member DTR$DYNC.Z.

Updating LIBDEF Procedures

Description

Update your library search chains to include the BIM-EPIC installation library.

Insert the name of the BIM-EPIC installation library in the LIBDEF search chain before the SET SDL statement in the ASI procedure.

Example

```
// LIBDEF PHASE,SEARCH=(VENDOR.EPIC,PRD1.XXX,PRD2.XXX,...)
```

Additional System Considerations

Activating BIM-EPIC Support for Multiple Job Exits

Description

IBM provides support for multiple job exits for VSE/ESA 1.2.0 and above. This IBM feature is optional. If your installation uses this support, you must place BIM-EPIC in the list of job exits called, using the following procedure. If you do not use multiple job exit support, you can skip this task. In this section, we assume familiarity with IBM's requirements for multiple job exits.

Step 1

Update the $JOBEXIT user exit list, as described in the IBM *Guide to System Functions*. Choose a $JOBEXnn phase name that is not yet in use. For example purposes, $JOBEX01 is used. Add the following two statements to your $JOBEXIT user exit list: The TSIDJCL identifier allows BIM-EPIC to identify its own job exit. This information is required at BIM-EPIC activation.

```
DC   CL8'$JOBEX01'         BIM-EPIC job exit name
DC   CL8'TSIDJCL'          BIM-EPIC job exit identifier
```

Example

In this example, the BIM-EPIC jobexit is first in the list, preceding the accounting and job scheduling exits.

```
// OPTION CATAL
// EXEC ASSEMBLY
PUNCH ' PHASE $JOBEXIT,S,SVA '
       START 0
       DC    CL8'JCLLUSEX'    Identifier of user exit list
       DC    CL8'$JOBEX01'    BIM-EPIC jobexit name
       DC    CL8'TSIDJCL'     BIM-EPIC jobexit identifier
       DC    CL8'$JOBEX03'    Accounting jobexit name
       DC    CL8'ACCOUNT'     Accounting jobexit identifier
       DC    CL8'$JOBEX05'    Scheduling jobexit name
       DC    CL8'SCHED'       Scheduling jobexit identifier
       DC    X'FFFFFFFF'      End of table
       END
/*
// EXEC LNKEDT
```

Step 2

Rename the TSIDJUX module to the $JOBEXnn name you used in Step 1, using the LIBR RENAME function.

Example

In this example, the TSIDJUX phase name is changed to $JOBEX01.

```
// EXEC LIBR,PARM='MSHP'
 ACCESS S=lib.sublib
 RENAME TSIDJUX.PHASE:$JOBEX01.PHASE
/*
```

Step 3

Add the $JOBEXnn phase selected for BIM-EPIC to the $SVA0000 phase and re-assemble/re-catalog it into IJSYSRS.SYSLIB. For this example, the phase would be: $JOBEX01

Example

This is an example of a $SVA0000. Its creation and use is described in the “IBM VSE/Enterprise Systems Architecture Guide to System Functions” manual.

```
// OPTION CATAL
// LIBDEF PHASE,CATALOG=EPTEST.HPICKENS
// EXEC ASSEMBLY
         TITLE '$SVA0000 - IPL LOAD LIST FOR JCL EXIT ROUTINES'
         SVALLIST $SVA0000,($JOBEX00),($JOBEX01),($JOBEX02)
         END
/*
// EXEC LNKEDT,PARM='MSHP'
```

COBOL II Support (VSE/ESA)

Description

When IBM's LE/VSE is installed, BIM-EPIC uses the standard vendor exits for COBOL II, C/370, PL/1 II, and RPG-II support. If IBM's LE/VSE is not installed, a separate interface must be installed.

BIM-EPIC requires COBOL II programs to invoke the VS COBOL II Library Management Feature. COBOL II programs must be compiled with the CBL RES option to invoke the Library Management Feature. Please refer to the IBM publication *VS COBOL II Installation and Customization for VSE*.

You may have software written in COBOL II, which was not compiled to invoke the Library Management Feature, but you have no access to the source code. To run these programs using BIM-EPIC's services, see "Processing with COBOL II" in Chapter 7 of the BIM-EPIC *User Reference*.

To enable BIM-EPIC's COBOL II support, perform the steps shown below.

Step 1

1. For COBOL II Release 3 and below, punch the IBM-supplied job IGZCPCO.Z from your COBOL II library using the LIBR PUNCH function. *For COBOL II Release 4 and above, punch IGZWEOPC.Z instead.*

2. Delete the INCLUDE IGZEQOC statement from the IGZCPCO.Z (or IGZWEOPC.Z) job stream.

3. Recatalog and execute the modified IGZCPCO.Z (or IGZWEOPC.Z) jobstream.

Step 2

1. Punch IGYCOPTV.A from your COBOL II library using the LIBR PUNCH function.

2. If the RES parameter in IGYCOPTV specifies RES=YES, no further action is necessary at this point to enable BIM-EPIC's COBOL II support.

If RES=NO has been specified, change RES=NO to RES=YES. This forces the CBL RES option for all COBOL II compiles, and all COBOL II programs you compile after Step 4 below will invoke the VS COBOL II Library Management Feature.

3. Recatalog the updated IGYCOPTV.A.

4. For COBOL II Release 3 and below, use the IBM-supplied job IGYCDOPT.Z in your COBOL II library to assemble and link the updated IGYCOPTV. *For COBOL II Release 4 and above, use IGYWEOP1.Z instead.*

5. Recompile and link all your COBOL II programs that will require BIM-EPIC's services.

Multi-Partition/CPU Environments

Sharing the DSN Catalog

Description

BIM-EPIC automatically operates in a multi-partition environment. The number of partitions is restricted only by the VSE system. BIM-EPIC can also run in a multi-CPU environment. The DSN Catalog can be shared among real and virtual machines, under VSE and VM/CMS. For BIM-EPIC in any machine to share the DSN Catalog with another BIM-EPIC, or CA-EPIC for CMS, in another machine, some VSE and BIM-EPIC features must be activated to ensure the integrity of devices and datasets. We recommend that you share one DSN Catalog in a multi-CPU environment, instead of creating separate DSN Catalogs. If you share the DSN Catalog, you must also share the volumes in your disk pools.

BIM-EPIC uses IBM's LOCK file mechanism (VSE LOCK/UNLOCK) and RESERVE/RELEASE facilities to ensure catalog integrity between machines and operating systems. The CMSTAPE and MULTCPU configuration options are used to enable these facilities.

Write the configuration option changes on your worksheet. See 2-5 to ensure that the required operating system options are contained in your VSE supervisor. The following instructions pertain to sharing catalogs and tape drives between multiple virtual or real machines.

Sharing a DSN Catalog Between VSE and CMS

In BIM-EPIC for VSE...	In CA-EPIC for CMS...
Specify CMSTAPE=YES	On the System Options Panel: 1. Enter the DOS CATALOG specifications 2. Set ALLOW DOS/EPIC TAPES to 'Y'

The DSN Catalog must be on a VSE disk volume (with a VSE VTOC). The DSN Catalog can be on a minidisk. *If so, its minidisk must be linked to all VSE machines that access it with the MWV option.* For best performance, we recommend that the DSN Catalog be the only dataset on the minidisk.

Sharing a DSN Catalog Among Multiple VSE Machines (Physical or Virtual)

BIM-EPIC for VSE (1)	BIM-EPIC for VSE (2)	BIM-EPIC for VSE(*n*)
MULTCPU=YES	MULTCPU=YES	MULTCPU=YES

If you are also sharing tape drives between physical CPUs or LPARs:

BIM-EPIC for VSE (1)	BIM-EPIC for VSE (2)	BIM-EPIC for VSE(*n*)
SHARE=YES	SHARE=YES	SHARE=YES

If you only plan to share tape drives among multiple VSE virtual machines (*not* different physical CPUs or LPARs), set SHARE=NO.

Sharing Disk Volumes Among Multiple VSE Machines

Specify SHR on the ADD statement for each shared volume in your ASI procedure.

Example

```
ADD 120:124,3380,SHR
```

Sharing the Recorder File Among VSE Machines

BIM-EPIC for VSE (1)	BIM-EPIC for VSE (2)	BIM-EPIC for VSE(n)
RECSHR=YES	RECSHR=YES	RECSHR=YES

A BIM-EPIC Recorder File *cannot* be shared with CA-EPIC for CMS.

Sharing the BIM-EPIC Resource Dataset Among VSE Machines

No additional configuration options are required.

Activating BIM-EPIC Online Components

Installing Online Manager for BIM-FAQS/ASO

Description

There are two ways to execute the Online Manager from a BIM-FAQS/ASO panel.

- Type .P=TSIO0001 on the BIM-FAQS/ASO command line and press ENTER.
- Create a BIM-FAQS/ASO online command. To do this, you must be running BIM-FAQS/ASO release 3.6 or later, and have security access to create such a command. The following steps describe how to do it:

Procedure

Step	Action
1	Enter AO from the BIM-FAQS/ASO command line to display the main menu.
2	From the BIM-FAQS/ASO Main Menu, select *I* (Initialization and Configuration) and press ENTER.
3	From the BIM-FAQS/ASO Initialization and Configuration panel, select *O* (Online Command Definition and Maintenance).
4	On the Online Command Definition and Maintenance panel, press PF6 to get the current definition. This panel is called BIM-FAQS/ASO - Online Commands Directory List.
5	On the Online Commands Directory List panel, type *A* beside any online command file and press ENTER. The BIM-FAQS/ASO Online Command Definition panel is displayed.
6	The Online Command Definition panel uses a number of input fields to define the BIM-EPIC online command. Use them as follows: a. Enter the CPU ID in the FILE field at the top right. b. In the COMMAND field, type BIM-EPIC. c. In the DESCRIPTION field, type BIM-EPIC Online Manager (or some other description). d. In the NEW COMMAND field, type .P=TSIO0001. e. Press PF5 to save the new command. Then press PF3 to return to the BIM-FAQS/ASO Online Command Definition panel. Review the new BIM-EPIC online command. Press PF6 to load the new BIM-FAQS/ASO directory list.
7	Press PF3 twice to exit BIM-FAQS/ASO.
8	After the online command has been installed, type *BIM-EPIC* on any BIM-FAQS/ASO command line to access Online Manager.

Accessing Online Manager using VTAM

Description

There are two different methods for accessing the BIM-EPIC Online Manager using VTAM, depending on whether or not you are using BIM-FAQ/ASO.

If You Are Using BIM-FAQS/ASO

If prior to Release 5.1A, or if CA-FAQS/ASO, select option ‘O’ at the DCMTDRIV Main Menu panel.

If Release 5.1A or higher, select option ‘O’ at the BIM$TIDR Main Menu panel.

If You Are Not Using BIM-FAQS/ASO

Use the BIM-GSS “P=" parameter in the VTAM “LOGON" procedure, as shown in the following example:

If prior to Release 5.1A, or if CA-FAQS/ASO:

```
LOGON APPLID(DCMTDRIV) DATA('P=TSIO0001')
```

If Release 5.1A or higher

```
LOGON APPLID(BIM$TIDR) DATA('P=TSIO0001')
```

Installing Online Manager for CICS

Description

Online Manager members are installed in two areas of the VSE environment:

- In the BIM-GSS datasets SYS$VIO and SYS$MON. The appropriate Online Manager members are automatically cataloged into these datasets when the BIM-EPIC installation tape is processed.
- In the CICS System Definition file (CSD) (or individual Processing Program Table (PPT) and Program Control Table (PCT) entries if the CSD file is not used).

When the BIM-EPIC installation tape is processed, you are given the option to select the CICS Quick Installation method. If you select the Quick Installation method, the appropriate CSD entries are made automatically. If you do not use the Quick Installation method, you must make PCT and PPT entries and reassemble the two tables. In either case, the "Completing CICS Installation" section of this chapter describes how to make the Online Manager environment available to CICS users.

Memory that is required for Online Manager processing is obtained from the batch partition in which the Online Manager resides.

Batch Partition

A batch partition must be dedicated to Online Manager processing when CICS is running. VSE's XPCC facility is used to communicate between Online Manager components in the CICS and batch partitions.

Starting Online Manager with Batch Partition Memory

Description

Select a partition that can be dedicated to Online Manager for the same amount of time that CICS will require Online Manager services. Submit the following job to that partition:

If using a release of BIM-GSS prior to 5.1A or if using any CA-GSS release, submit the following job to that partition:

```
// JOB DCMBATCH   BATCH MEMORY INTERFACE TO CICS PARTITION
// EXEC DCMTDRIV,SIZE=DCMTDRIV
/*                       (the slash asterisk is required)
/&
```

If using BIM-GSS Release 5.1A or higher, submit the following job to that partition:

```
// JOB DCMBATCH   BATCH MEMORY INTERFACE TO CICS PARTITION
// EXEC BIM$TIDR,SIZE=BIM$TIDR
/*                       (the slash asterisk is required)
/&
```

CICS can be started either before or after this job is submitted, but Online Manager functions are not available until this job has begun execution.

To terminate Online Manager and free its partition, enter the following at the console:

```
MSG partition-id
```

This ends BIM$TIDR or DCMTDRIV processing and makes Online Manager functions unavailable.

Example

When DCMTDRIV is executing in the F8 partition, the following command ends its execution:

```
MSG F8
```

This technique is discussed in more detail in the “Online Interfaces" chapter of the *BIM-GSS Installation and Utilities Guide.*

Completing CICS Installation

Activating CICS Quick Installation

Description

To activate the CSD entries loaded by the CICS Quick Installation option, perform the procedure below.

To load the CSD entries for CICS Quick Installation when BIM-EPIC is already installed, see 2-13 in this manual.

Procedure

Step	Action
1	Run the CICS CEDA transaction.
2	Add GROUP(EPIC6) LIST(*listname*) where *listname* is the GRPLIST specified in your DFHSIP start-up.
3	Install GROUP(EPIC6).
4	The BIM-EPIC, TVTO, TAID and TOJA transactions can be activated.

Manual CICS Installation

Description

Follow the manual CICS installation procedures below. Then go to 2-84 to complete CICS installation.

With a manual installation, all transactions are optional. However, we strongly recommend installing the TAID transaction. If disk management is used, we recommend installing TVTO.

While this procedure describes how to install all transactions at once, individual transactions can be installed at any time. Perform only the tasks related to the transactions desired.

Update PPT Tables

Procedure

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>Locate your current PPT assembly JCL.</td></tr>
<tr><td>2

1

2</td><td>Add entries to the PPT assembly for any transactions you wish to install.
<table>
<tr><th>For Transaction...</th><th>Add...</th></tr>
<tr><td>TAID</td><td>COPY TSAIDPPT</td></tr>
<tr><td>TOJA</td><td>COPY TSOJAPPT</td></tr>
<tr><td>TPRT</td><td>COPY TSPRTPPT</td></tr>
<tr><td>TVTO</td><td>COPY TSVTOPPT</td></tr>
<tr><td>Online Manager programs</td><td>COPY TSDCMPPT</td></tr>
</table></td></tr>
<tr><td>3</td><td>Assemble and recatalog the PPT table.</td></tr>
</table>

Update PCT Tables

Procedure

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>Locate your current PCT assembly JCL.</td></tr>
<tr><td>2

1

2</td><td>Add entries to the PCT assembly for any transactions you wish to install.
<table>
<tr><th>For Transaction...</th><th>Add...</th></tr>
<tr><td>TAID</td><td>COPY TSAIDPCT</td></tr>
<tr><td>TOJA</td><td>COPY TSOJAPCT</td></tr>
<tr><td>TPRT</td><td>COPY TSPRTPCT</td></tr>
<tr><td>TVTO</td><td>COPY TSVTOPCT</td></tr>
<tr><td>BIM-EPIC (Online Manager)</td><td>COPY TSDCMPCT</td></tr>
</table></td></tr>
<tr><td>3</td><td>Assemble and recatalog the PCT table.</td></tr>
<tr><td>4</td><td>Go to the standard installation procedures at 2-84.</td></tr>
</table>

CICS Installation Table Entries

The following sections contain the table entries required to install BIM-EPIC CICS features.

Event Posting

PPT Entry

```
TSIDCLOC  DFHPPT  TYPE=ENTRY,PGMLANG=ASSEMBLER,PROGRAM=TSIDCLOC,    X
                  PGMSTAT=ENABLED,RELOAD=NO,RES=NO                  X

TSIDCCHK  DFHPPT  TYPE=ENTRY,PGMLANG=ASSEMBLER,PROGRAM=TSIDCCHK,    X
                  PGMSTAT=ENABLED,RELOAD=NO,RES=NO                  X

TSIDCREL  DFHPPT  TYPE=ENTRY,PGMLANG=ASSEMBLER,PROGRAM=TSIDCREL,    X
                  PGMSTAT=ENABLED,RELOAD=NO,RES=NO                  X

TSIDCUNL DFHPPT TYPE=ENTRY,PGMLANG=ASSEMBLER,PROGRAM=TSIDCUNL,      X
                  PGMSTAT=ENABLED,RELOAD=NO,RES=NO                  X
```

TOJA

PPT Entries

```
TSIDOJA  DFHPPT  TYPE=ENTRY,PROGRAM=TSIDOJA,              X
                 PGMLANG=COBOL,PGMSTAT=ENABLED,          X
                 RELOAD=NO,RES=NO

TSIDOMM  DFHPPT  TYPE=ENTRY,PROGRAM=TSIDOMM,             X
                 PGMLANG=ASSEMBLER,PGMSTAT=ENABLED,      X
                 RELOAD=NO,RES=NO

TSIDOMAM  DFHPPT  PGMLANG=ASSEMBLER,PGMSTAT=ENABLED,     X
                 PROGRAM=TSIDOMAM,TYPE=ENTRY,            X
                 RELOAD=NO,RES=NO
```

PCT Entries

```
TOJA  DFHPCT  TYPE=ENTRY,PROGRAM=TSIDOJA,                X
                TRANSID=TOJA,TWASIZE=0,                  X
                CLASS=SHORT,PRIVATE=YES,                 X
                SPURGE=YES,TPURGE=YES,                   X
                TRNSTAT=ENABLED

TOJ1  DFHPCT  TYPE=ENTRY,PROGRAM=TSIDOJA,                X
                TRANSID=TOJ1,TWASIZE=0,                  X
                CLASS=SHORT,PRIVATE=YES,                 X
                SPURGE=YES,TPURGE=YES,                   X
                TRNSTAT=ENABLED
```

FCT Entry

```
TSIJADB  DFHFCT  TYPE=DATASET,                           X
                 DATASET=TSIJADB,                        X
                 ACCMETH=(VSAM,KSDS),                    X
                 SERVREQ=(GET,BROWSE),                   X
                 OPEN=INITIAL,                           X
                 JID=NO,                                 X
                 LOG=NO                                  X
                 RECFORM=(VARIABLE,UNBLOCKED),           X
                 BUFND=4,                                X
                 BUFNI=3,                                X
                 STRNO=3
```

TPRT

Description

The DCT for TSPR must supply the program's transaction ID, and a trigger level of one (1) or greater to AUTOSTART the transaction. In addition, TRMINDNT=TSPR must be added to the TCT for the label printer.

PCT Entry

```
DFHPCT  TYPE=ENTRY,PROGRAM=TSIDPRT,                          X
             TRANSID=TPRT,TWASIZE=0,                         X
             SPRUGE=YES,CLASS=LONG,                          X
             TRANSTAT=ENABLED


DFHPCT  TYPE=ENTRY,PROGRAM=TSIDLPRT,                         X
             TRANSID=TSIL,TWASIZE=0,                         X
             SPURGE=YES,CLASS=LONG,                          X
             ANTICPG=1,DTB=NO,DUMP=YES,                      X
             RESTART=NO,FDUMP=ASRA,DVSUPRT=ALL,              X
             PRIVATE=YES,RTIMOUT=NO,DTIMOUT=NO,              X
             TPURGE=YES,TCLASS=NO,TRANSEC=1,                 X
             TRNPRTY=1,TRNSTAT=ENABLED
```

PPT Entry

```
DFHPPT  TYPE=ENTRY,PROGRAM=TSIDPRT,                          X
             PGMSTAT=ENABLED,                                X
             RES=YES,RELOAD=NO


DFHPPT  TYPE=ENTRY,PGMLANG=COBOL,                            X
             PROGRAM=TSIDLPRT,PGMSTAT=ENABLED,               X
             RELOAD=NO,RES=NO
```

DCT Entry

```
DFHDCT  TYPE=INTRA,DESTID=TSPR,TRANSID=TSIL
```

PLT Entry (Optional)

```
DFHPLT  TYPE=ENTRY,PROGRAM=TSIDPRTS
```

TCT Entry

```
Add TRMINDNT=TSPR to your printer's TCT.
```

TVTO

PPT Entry

```
DFHPPT  TYPE=ENTRY,PROGRAM=TSIDVTO
```

PCT Entry

```
DFHPCT  TYPE=ENTRY,                                                    X
              CLASS=SHORT,                                             X
              PROGRAM=TSIDVTO,                                         X
              SPURGE=YES,                                              X
              TPURGE=YES,                                              X
              TRANSID=TVTO
```

TAID

PCT Entry

```
DFHPCT  TYPE=ENTRY,                                          X
              TRANSID=TAID,                                  X
              PROGRAM=TSIDCAI,                               X
              PGMLANG=ASSEMBLER,                             X
              SPURGE=YES,                                    X
              CLASS=SHORT,                                   X
              TRNSTAT=ENABLED
```

PPT Entry

```
DFHPPT  TYPE=ENTRY,PROGRAM=TSIDCAI,                          X
              PGMSTAT=ENABLED,                               X
              RES=YES,RELOAD=NO
```

BIM-EPIC

BIM-EPIC Transaction using GSS prior to BIM-GSS 5.1A

```
DCMOCIXP DFHPPT TYPE=ENTRY,PGMLANG=ASSEMBLER,PROGRAM=DCMOCIXP,      X
                RES=YES,RSL=PUBLIC

EPIC   DFHPCT TYPE=ENTRY,                                          X
              PROGRAM=DCMOCIXP,                                    X
              TRANSID=EPIC,                                        X
              DTB=NO,                                              X
              RSL=PUBLIC,                                          X
              SPURGE=YES,                                          X
              TPURGE=YES,                                          X
              TRNPRTY=100
```

BIM-EPIC Transaction using BIM-GSS 5.1A and later versions

```
BIM$TICI DFHPPT TYPE=ENTRY,PGMLANG=ASSEMBLER,PROGRAM=BIM$TICI,      X
                RES=YES,RSL=PUBLIC

EPIC   DFHPCT TYPE=ENTRY,                                          X
              PROGRAM=BIM$TICI,                                    X
              TRANSID=EPIC,                                        X
              DTB=NO,                                              X
              RSL=PUBLIC,                                          X
              SPURGE=YES,                                          X
              TPURGE=YES,                                          X
              TRNPRTY=100
```

Transactions Notes

Introduction

Many transactions have special requirements or characteristics. Some of them require configuration options to be set. This section presents special notes on each of these transactions.

TVTO Installation

TVTO is an online VTOC display utility. It is written in Command-Level assembler language, does its own screen mapping, and is pseudo-conversational

TOJA Installation

The TOJA transaction provides online access to the Job Accounting database.

You should create two transactions for online job accounting: TOJA (the normal TRANSID for displaying job accounting data) and TOJ1 (a TRANSID you can use to purge queues if you cannot reactivate TOJA after a failure). We recommend that you put TOJ1 in your PCT tables, though it is not required. The CICS Quick Installation satisfies these requirements automatically.

TOJA is written in COBOL and uses unaligned BMS maps. It executes in pseudo-conversational mode.

TPRT Installation

Online label printing support must be activated with the RMNTPRT=YES configuration option.

TAID Installation

TAID is a system programer's tool to display and update resident BIM-EPIC components. It is written in assembler language and does its own screen mapping. It executes in conversational mode.

Initializing the Job Accounting Database

Description

The Job Accounting database provides data for the TOJA transaction and any applications you may wish to write, using the Recorder File backup or history tape as input.

Before you can build the job accounting database, you must define the database file. Use the EPICJADB.Z sample JCL to do so.

Procedure

Step	Action
1	Punch the EPICJADB.Z sample JCL from the BIM-EPIC library.
2	Update the IDCAMS DELETE/DEFINE/CATALOG statements to reflect your VSAM configuration.
3	Catalog the updated IDCAMS control statements as EPICJADB.PROC or a different name of your choice.
4	Execute your updated procedure to initialize the database. You can re-execute this procedure to re-initialize the database at any time.
5	Use the TSIDJLD utility to create the job accounting database. See Chapter 11 of the *User Reference* for more information.

Modifying CICS Start-Up JCL

Description

Include a label for the job accounting database in your CICS job stream.

Example

```
// JOB CICS STARTUP
...
*  LABELS FOR JOB ACCOUNTING DATABASE
// DLBL TSIJADB,'TSIJADB,JOB.ACCNT',99/365,VSAM,CAT=IJSYSCT
...
// EXEC DFHSIP
( CICS STARTUP PARAMETERS )
$END
/*
```

Modifying the FCT Table

Description

TOJA requires an FCT entry.

Procedure

Step	Action
1	Locate your current FCT assembly JCL.
2	Add the statement COPY TSOJFC17 (or COPY TSOJACFT if you are using CICS 1.6 or earlier).
3	Reassemble and catalog the FCT table.

Modifying DCT Entries

Description

TPRT requires a DCT entry.

Procedure

Step	Action
1	Locate your current DCT assembly JCL.
2	Punch the source book TSPRTDCT.A.
3	Supply your program's transaction ID in TRANSID=xxxx. Also add a trigger level of one or greater to AUTOSTART your transaction. The supplied DCT book TSPRTDCT.A uses the transaction ID TSIL.
4	Recatalog the source book.
5	Add the following statement to your DCT assembly: `COPY TSPRTDCT`
6	Reassemble and catalog the DCT table.

Modifying the TCT Table

Description

TSIDPRT requires a TCT entry for the printer that will be used to print tape labels. This TCT entry must specify TRMIDNT=TSPR.

Procedure

Step	Action
1	Locate your current TCT assembly JCL. Find the TCT for the printer you will use to print labels.
2	Add TRMIDNT=TSPR.
3	Reassemble and catalog the TCT table.

Modifying the PLTPI Table

Description

You can create a PLT entry for TPRT.

If TPRT is started through the PLT, it does not require a dedicated terminal, but it requires a dedicated printer port. That port cannot be detached unless the PLT entry is deleted.

If TPRT does not have a PLT entry, it must be started from a terminal using the TPRT transaction. In this case, it requires a dedicated terminal, but not a dedicated printer port.

Procedure

Use the following steps to start TSIDPRT through the PLT, if you wish.

Step	Action
1	Locate your current PLT assembly JCL.
2	Add the following statement to your PLT: `COPY TSPRTPLT`
3	Reassemble and catalog the PLT table.

Post-Installation Procedures

Creating Maintenance JCL

Description

Create JCL for regular BIM-EPIC maintenance. Such maintenance includes daily DSN Catalog backups, Recorder File maintenance, daily reports, and emergency DSN Catalog recovery. The BIM-EPIC distribution tape provides examples of these procedures under the file type SAMPJOB.

Maintenance procedures are described in more detail at 4-2. At a minimum, do the procedure below.

Procedure

Step	Action
1	Use the DAILY1 or DAILY2 SAMPJOB as a model to create daily maintenance JCL.
2	Decide which reports to print regularly by reviewing the report examples in the BIM-EPIC *User Reference*. Create report JCL and add it to your DAILY procedure.
3	Use the RECOVER1 or RECOVER2 SAMPJOB as a model to create JCL for an emergency DSN Catalog recovery.

Converting a BIM-EPIC/VSE 2.x DSN Catalog (TSIDCLN)

Description

If you are upgrading from BIM-EPIC/VSE Version 2, do the following:

- Activate the new version of BIM-EPIC
- Run the TSIDCLN PROC to initialize new fields in your version 2.x DSN Catalog. The TSIDCLN PROC can be rerun as needed.

Example

```
// JOB TSIDCLN
// LIBDEF PROC,SEARCH=lib.sublib          ← BIM-EPIC installation library
// EXEC PROC=TSIDCLN
 UPGRADE 3
/*
/&
```

Converting from Another Tape/Disk Manager

Description

See the for conversion procedures.

For more information about converting to BIM-EPIC, contact BIM-EPIC Technical Support.

Modifying the EPICON Procedure

Description

The EPICON procedure contains an execution of TSIDON, including configuration options. It also contains an execution of TSIDRFS and TSIVON. TSIDON activates and configures BIM-EPIC. TSIDRFS activates the Recorder. TSIVON activates QDAS. These programs and their configuration options are described in Chapter 5.

Step 1

Ensure that DATA=YES has been specified on the CATALOG or CATALP statement in your $nJCLxxx procedure.

Step 2

Complete your configuration option worksheet. The requirements of a few common features are listed below.

To enable..	Set...
Recorder File logging	RECORD=YES
Job accounting	RECORD=YES JOBACCT=YES
Autoattach	AUTOATT=YES
VM support	VM=YES
CICS transactions	RMNTPRT=YES

Step 3

Update the configuration options in your EPICON procedure. Add any special configuration options you require.

Step 4

The EPICON procedure should be executed in BG, before POWER starts and after most other software is activated. See “Compatibility with Other Software," on page 2-8, for software that should be activated before BIM-EPIC.

Insert a PAUSE in your ASI procedure where the EPICON procedure should be executed.

Step 5

IPL your system and execute the EPICON procedure. If BIM-EPIC and its features are successfully activated, add the execution of the EPICON procedure to your ASI procedure in place of the PAUSE statement.

TSIDON Example

```
// EXEC TSIDON
 /*                                                                  */
 /*    THE FOLLOWING OPTIONS HAVE BEEN COMMENTED OUT BECAUSE         */
 /*    THEY DO NOT HAVE DEFAULT VALUES OR THEY HAVE SYSTEM-          */
 /*    GENERATED DEFAULT VALUES.                                     */
 /*                                                                  */
 /*    OPTION ACLLIB=                                                */
 /*    OPTION ACLSRVR=                                               */
 /*    OPTION CPUIDS=                                                */
 /*    OPTION CWDSPOL=                                               */
 /*    OPTION DEFPOL=                                                */
 /*    OPTION DEFWPOL=                                               */
 /*    OPTION EPICOFF=                                               */
 /*    OPTION ERDFILE=                                               */
 /*    OPTION JQNAME=                                                */
 /*    OPTION JQWARN=                                                */
 /*    OPTION JQWMSG=                                                */
 /*    OPTION PASSWD=                                                */
 /*    OPTION TAPPOL=                                                */
 /*    OPTION TSTJOB=                                                */
 /*                                                                  */
 /*                                                                  */
 /*    THE FOLLOWING OPTIONS ARE SYSTEM DEFAULTS                     */
 /*                                                                  */
 OPTION ACCEPT=YES
 OPTION ACLAUTI=YES
 OPTION ACLIBM=NO
 OPTION ACLMEM=NO
 OPTION ACLRECS=100
 OPTION ACLTIME=180
 OPTION ALLMALL=NO
 OPTION ALLMSG=YES
 OPTION ALTMSGS=NO
 OPTION AUTOATT=NO
 OPTION AUTOCAT=(NO,NO)
 OPTION AUTOLOG=NO
 OPTION AUTOSTP=NO
 OPTION AUTSTPN=5
 OPTION AUTSTPNO=5
 OPTION AUTSTPT=10
 OPTION AUTSTPTO=10
 OPTION BYPEXT=NO
 OPTION CANMSG=NO
 OPTION CATRT1=NO
 OPTION CKDFACT=30
 OPTION CMSTAPE=NO
 OPTION CNTRL=NO
 OPTION CYCL=3
 OPTION DDERR=IGNORE
 OPTION DDGEN=NO
 OPTION DEBUG=NO
 OPTION DEFEXT=0
 OPTION DISKALL=YES
 OPTION DSKLUB=100
 OPTION DSKRET=7
 OPTION DSNAME=IJSYSDS
 OPTION DSNWARN=200
 OPTION DSNWMSG=10
 OPTION EURODAT=NO
 OPTION FBAFACT=0
 OPTION FRAG=NO
 OPTION GDI=YES
```

```
 OPTION GDIUR=YES
 OPTION JCLAC=YES
 OPTION JCLLANG=YES
 OPTION JCLOPT=NO
 OPTION JCLOVRDE=NO
 OPTION JOBACCT=YES
 OPTION MINDEX=NO
 OPTION MINRET=7
 OPTION MODE=D0
 OPTION MSG088=NO
 OPTION MULTCPU=NO
 OPTION NCATDSK=NO
 OPTION NOGVIS=CANCEL
 OPTION ONLREWCD=RUN
 OPTION PREFIX=EP
 OPTION PURBYP=NO
 OPTION RECORD=YES
 OPTION RECSHR=NO
 OPTION RERUN=YES
 OPTION RETEN=7
 OPTION RMNTPRT=NO
 OPTION SHARE=NO
 OPTION SLASIZE=300
 OPTION STRTRK=1
 OPTION TAPCUU=F00
 OPTION TAPE=YES
 OPTION TAPLUB=10
 OPTION UNCDSK=NO
 OPTION UNCTAP=NO
 OPTION UNCTL=NO
 OPTION UNLABEL=YES
 OPTION VM=NO
 OPTION VSAM=NO
/*
*
// EXEC TSIDRFS
 START
/*
*
// EXEC TSIVON
/*
```

3

Installing the Autoattach Feature

This chapter contains procedures for installing the Autoattach feature.

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Overview

Description

The BIM-EPIC Autoattach feature is used to automatically attach tape drives to virtual machines when datasets are opened, and to detach the drives when datasets are closed.

The Autoattach feature includes:

- two new CP commands (VATTACH/VDETACH) added to the CP nucleus
- a command processing module added to the CP Load List

VATTACH and VDETACH

The VATTACH and VDETACH commands perform the same functions as the VM ATTACH and DETACH commands, but they operate in silent mode. They do not print any messages about execution success or failure. This allows BIM-EPIC to attach and detach tape drives without generating unnecessary operator console messages every time a tape drive is attached or detached.

An additional feature of VDETACH is that it does not automatically unload a tape, thereby leaving the tape accessible to another virtual machine without need for operator intervention. (In earlier releases of VM, there was no LEAVE option on the DETACH command.)

Attaching and detaching a tape drive without affecting the external operational environment provides another operational advantage: VSE guests can attach a tape drive just to determine whether a needed tape is mounted on it. If it isn't, the drive is detached and nothing else is affected. This improves tape drive availability by reducing operator involvement.

Autoattach Requirements for BIM-EPIC

Using Autoattach with BIM-EPIC requires setting the VM and AUTOATT configuration options to YES, and installing the VATTACH and VDETACH commands into the CP Nucleus.

Installation Assumptions

There are two ways of installing the BIM-EPIC AUTOATTACH feature into the CP environment:

1. Add the VATTACH and VDETACH commands to the CP Nucleus.
2. Add the VATTACH and VDETACH commands dynamically.

For VM/ESA and VM/SP releases prior to VM/ESA Version 2, Release 2, only the first method can be used since dynamic command definition is not available in earlier releases.

For VM/ESA Version 2, Release 2 and above, the second method is recommended. It requires considerably less user effort and does not require any modifications to the CP environment. The first method involves a lengthy update/assembly process and modification of the CP Nucleus.

If the second installation method is to be used, read the How to Read the Instructions portion of this Overview and then go directly to the *Autoattach Installation Via Dynamic Command Definition* section.

We assume that you have experience generating and servicing a VM/CP nucleus. If you do not perform each installation step correctly, your VM system could become inoperable. If questions arise on any of the procedures, do not hesitate to contact BIM technical support.

The term **Local Service Disk** refers to the MAINT minidisk where you maintain your installation's modifications to CP. We assume that the MAINT 191 A-disk is being used. Many sites use MAINT 295 and other disks for the Local Service function. The minidisk you choose must be accessed ahead of IBM service for Autoattach to be installed successfully. Local service must always be applied after all other IBM service.

How to Read the Instructions

Enter commands as shown, from the appropriate command line (CMS or XEDIT). Commands are shown in the left column. XEDIT commands are shown in lowercase. Explanations are shown in the right column. For example:

`xedit HCPMDLAT AUXLCL`	Edit or create an AUX control file for HCPMDLAT.
`top`	Go to beginning of the file.
`input EPICAA LCL * GSI EPIC AUTOATTACH`	Insert a line at the top to describe the new source update file HCPMDLAT EPICAA. (This is also an example of a command string that is entered as a single line.)
`fm E`	Change the file-mode to the LOCALMOD disk.
`gencpbls CPLOAD ESA CP (OUTMODE LOCALMOD $SELECT LOGMOD`	Another example of a command string that is entered as a single line.

When, due to space limitations, a command string is shown on two lines, be sure to add a space after the last character of the first line before typing the first character of the second line. For example:

ABCDEF
GHIJKLM

is entered as ABCDEF GHIJKLM and not as ABCDEFGHIJKLM

MDISK abbreviations

The following MDISK abbreviations are used in these instructions (complete descriptions are in the *VM/ESA Service Guide*):

APPLYALT The Alternate Apply Disk used as a VMFAPPLY and VMFBLD staging area.

BUILD7 Used in the VMFBLD process

LOCALMOD The Local Modifications Disk where non-IBM-provided modifications to CP are kept.

Autoattach Installation Via Dynamic Command Definition

Installation Requirements

This method can only be used for VM/ESA Version 2 Release 2 and later releases. We assume that you have experience with accessing and modifying the *System Configuration File* and understand the purpose of the CPACCESS and CPRELEASE commands.

Installation Files

These are the Installation Files to be obtained from the BIM-EPIC distribution tape:

File	Description
`EPICVATT TEXT22`	EPIC VATTACH command for VM/ESA V2R2
`EPICVDET TEXT22`	EPIC VDETACH command for VM/ESA V2R2
`EPICVATT TEXT23`	EPIC VATTACH command for VM/ESA V2R3
`EPICVDET TEXT23`	EPIC VDETACH command for VM/ESA V2R3
`EPICVATT TEXT31`	EPIC VATTACH command for VM/ESA V3R1
`EPICVDET TEXT31`	EPIC VDETACH command for VM/ESA V3R1

Procedure

Step	Action
1	Select a CP-Accessed Minidisk.
2	Obtain the BIM-EPIC AUTOTACH text decks and place them onto the disk selected in 1, above.
3	Add AUTOATTACH definition statements to the *System Configuration File*.
4	Shutdown and re-IPL VM
5	Test BIM-EPIC's VATTACH and VDETACH commands.

STEP 1

Select a CP-Accessed Minidisk and write its *cuu* here _____.

The TEXT decks for the BIM-EPIC commands to be dynamically defined must reside on a CP-Accessed Minidisk. This is usually the MAINT minidisk containing the *System Configuration File* but it can be any existing CP-Accessed Minidisk. The creation of a new CP-Accessed minidisk is beyond the scope of these instructions.

STEP 2

Obtain the BIM-EPIC AUTOTTACH text decks and place them onto the disk selected in 1, above.

Prepare and execute the following VSE job to obtain the BIM-EPIC AUTOATTACH "all VM versions" master file deck:

```
* $$ JOB  JNM=AUTOATT,CLASS=x,LDEST=(,userid),PDEST=(,userid)
// JOB AUTOATT OBTAIN AUTOATTACH MASTER DECK
// EXEC LIBR
 ACCESS  S=lib.sublib
 PUNCH EPAUTO.Z  FORMAT=NOHEADER  EOF=NO
/*
/&
* $$ EOJ
```

x	any desired POWER Job Class
userid	the CMS user id the punch and print output are to be directed to.
lib.sublib	the VSE library and sub-library where the current version of BIM-EPIC is installed.

The card deck produced by this job contains BIM-EPIC AUTOATTACH files for all VM versions. The CMS RECEIVE command is used to bring the files needed for your version onto the MAINT "A" disk. They are then moved to the CP-Accessed disk.

These messages will be displayed for each AUTOATTACH member in the deck:

```
DMSDSK1079R Receive fn ft fm as fn fm A1?
DMSDSK1079R Reply 0 (NO), 1 (YES), 2 (QUIT), or 3 (RENAME)
```

Receive only the EPICVATT/VDET TEXTnn files pertaining to your VM release. For example, if you are V2R3, then receive EPICVATT TEXT23 and EPICVDET TEXT23 and bypass all of the other files.

It does no harm if members from other AUTOTACH versions are received, since all file names/types are unique, but this "selective receive" process avoids cluttering the receiving disk.

If the member is listed in the "Installation Files" table, above:

reply 1 to receive it

If it is not listed in the table:

reply 0 to ignore it

At the end of the process, the following error messages may be displayed. They can be ignored:

```
DMSDSK078E Invalid card in input deck
DMSDSK1124W Spool file nnnn has been left in your reader
DMSDSK1124W because one or more files were not received
DMSWRC671E Error receiving file ACIMAP EPIC A; rc=32 from DISK LOAD
```

`Q RDR * ALL`	Display the RDR queue
`RECEIVE` *`number`* `(NEW REP`	Move the AUTOATTACH files onto the "A" disk. "(NEW" will cause them to be assigned the current date. *Number* is the file number of the RDR queue entry for the just-punched deck.
`FILEL * *`	Display a list of members on the "A" disk. There should be a MAINT NETLOG member followed by 2 members created as a result of the RECEIVE command. Compare these 2 members with the *Installation Files* table, above. **If any are missing, repeat the RECEIVE command.**

STEP 3

Add AUTOATTACH definition statements to the *System Configuration File*.

The *System* Configuration *File* is described in the *Virtual Machine/Enterprise Systems Architecture Planning and Administration* manual. The methods used to access and update this file are described in the *Virtual Machine/Enterprise Systems Architecture Installation Guide*. The instructions given here assume MAINT CF1 Mode A is the CP-Accessed minidisk containing the active *System Configuration File*. The USERID, CUU, and CP Mode may be different in your environment.

`Logon to MAINT`	
`Q CPDISK`	Display the CP-Accessed minidisks. Make a note of the Mode of the CPDISK that will be used to store the EPIC Autoattach modules on.
`CPRELEASE A`	Make the minidisk available to CMS users. Replace *A* with the CP Mode used in your environment.
`LINK MAINT CF1 CF1 MR`	Establish a CMS link to the minidisk. Replace *CF1* with the CUU used in your environment.
`ACC  CF1 Z`	Access it under CMS. Replace *CF1* with the CUU used in your environment.
`COPY EPICVATT TEXTnn A = = Z`	Copy BIM-EPIC VATTACH command to the CP minidisk. *nn* is the release level (22, 23, …).
`COPY EPICVDET TEXTnn A = = Z`	Copy BIM-EPIC VDETACH command to the CP minidisk. . *nn* is the release level (22, 23, …).
`XEDIT SYSTEM CONFIG Z`	Edit the System Configuration File.
	Add these statements to the file. They may be added at any point in the file.
`CPXLOAD EPICVATT TEXTnn fm NOCONTROL DELAY PERMANENT`	
	Dynamically load BIM-EPIC VATTACH *nn* is the release level (22, 23, …). *fm* is the CPDISK Mode that was noted when the

	Q CPDISK was done at the beginning of this step. It is NOT the CMS Mode.
`CPXLOAD EPICVDET TEXTnn fm NOCONTROL DELAY PERMANENT`	
	Dynamically load BIM-EPIC VDETACH *nn* is the release level (22, 23, …). *fm* is the CPDISK Mode that was noted when the Q CPDISK was done at the beginning of this step. It is NOT the CMS Mode.
`DEFINE COMMAND VATTACH ABBR 4 ENABLE EPNAME HCPGVAEP ,` `PRIVCLASS B IBMCLASS B`	
	Dynamically define the BIM-EPIC VATTACH command to CP for Class B users. PRIVCLASS … is on a second line. Be sure to insert a blank prior to the comma on the first line.
`DEFINE COMMAND VATTACH ABBR 4 ENABLE EPNAME  HCPGVAEP ,` `PRIVCLASS G IBMCLASS G`	
	Dynamically define the BIM-EPIC VATTACH command to CP for Class G users. PRIVCLASS … is on a second line. Be sure to insert a blank prior to the comma on the first line.
`DEFINE COMMAND VDETACH ABBR 4 ENABLE EPNAME HCPGVDEP ,` `PRIVCLASS B IBMCLASS B`	
	Dynamically define the BIM-EPIC VDETACH command to CP for Class B users. PRIVCLASS … is on a second line. Be sure to insert a blank prior to the comma on the first line.
`DEFINE COMMAND VDETACH ABBR 4 ENABLE EPNAME HCPGVDEP ,` `PRIVCLASS G IBMCLASS G`	
	Dynamically define the BIM-EPIC VDETACH command to CP for Class G users. PRIVCLASS … is on a second line. Be sure to insert a blank prior to the comma on the first line.
`FILE`	File the System Configuration File.
`REL Z (DET`	Remove minidisk from CMS environment.
`CPACCESS MAINT CF1 A SR`	Add the minidisk to the CP environment. Replace *CF1* and *A* with the CUU and CP Mode used in your environment.
`Q CPDISK`	Display the CP-Accessed minidisks and verify that the minidisk is accessed by CP.

STEP 4 Shutdown and re-IPL VM

Follow your normal procedure for shutting down and re-IPLing VM, or enter this command from the Operator Console

```
CP SHUTDOWN REIPL
```

During the IPL, carefully check the OPERATOR Console for any error messages caused by the newly added CPXLOAD and DEFINE commands.

If any errors are present, correct them and repeat the shutdown/re-IPL process.

If it is inconvenient to IPL VM at this time, the CPXLOAD and DEFINE COMMAND statements can be entered from the MAINT operator console. This will enable the BIM-EPIC VATTACH and VDETACH commands until the next IPL, and allow them to be tested as described in Step 5. The same syntax as for the System Control File statements can be used. You will get some warning error messages because some of the operands are not allowed in the command line syntax, but these can be ignored. Of course, if something is misspelled, the error message will not be a “warning”, so be sure to read the messages carefully.

STEP 5 Test BIM-EPIC's VATTACH and VDETACH command

This description assumes that the MAINT machine has CMS Class B and Class G privileges.

`Logon to MAINT`	
`SP CONSOLE * CL T START`	Spool console to MAINT for audit trail purposes.
`Q COMMANDS`	Display a list of CP commands. VATTACH and VDETACH should appear in the list.
`VATTACH rdef * 181`	Test the VATTACH command *rdef* is the address of a "real" tape drive.
`Q TAPES`	Query tapes and verify that *rdef* is attached to MAINT.
`VDETATCH 181`	Test the VDETACH command.
`Q TAPES`	Query tapes and verify that *rdef* is not attached to MAINT.
`VATT rdef * 181`	Test the VATTACH command *rdef* is the address of a "real" tape drive.
`Q TAPES`	Query tapes and verify that *rdef* is attached to MAINT.
`VDET 181`	Test the VDETACH command.
`Q TAPES`	Query tapes and verify that *rdef* is not attached to MAINT.

The purpose of the VATT and VDET test is to verify that the ABBR portion of the DEFINE COMMANDs was correctly entered.

After Step 5 is completed, BIM-EPIC VATTACH and VDETACH commands can be used by an operator and will automatically be used by VSE Guests that have started BIM-EPIC with these OPTION statements included in the configuration options:

`AUTOATT=YES`
`VM=YES` (this one is probably already present)

DO NOT add the AUTOATT=YES option to the BIM-EPIC configuration options until all of the above steps have been successfully completed.

Autoattach Installation for VM/ESA Version 2 Release 2 Using VMSES/E

Installation Requirements

Please review the installation assumptions at the beginning of the chapter.

The instructions in this section assume that you use VMSES/E procedures and tools to install Autoattach. The term **LOCALMOD disk** refers to the MAINT minidisk where you maintain your installation's modifications to CP. These instructions assume that you are using the VMSES/E-specified 2C4 disk. Although some files will be created on the MAINT A-disk, they will be moved to other minidisks as prescribed by VMSES/E.

Installation Files

The following files are loaded from the BIM-EPIC installation tape:

File		Description
CPLOAD	AUXLCL	CPLOAD update control file
EPICAA	PARTCAT	Parts catalog entries for Autoattach
HCPCOM	VATTESA	HCPCOM update file to add VATTACH
HCPCOM	VDETESA	HCPCOM update file to add VDETACH
HCPGVA	ASSEMBLE	Source code for VATTACH command
HCPGVD	ASSEMBLE	Source code for VDETACH command
HCPLDL	EPICAA	CP nucleus load list module update
HCPMDLAT	HCPGVA	HCPMDLAT update file for HCPGVA module
HCPMDLAT	HCPGVD	HCPMDLAT update file for HCPGVD module

The following IBM files are updated or created. Those with an asterisk (*) next to them must be loaded from the VM/ESA CP product tape and unpacked unless this has already been done as part of the VM/ESA install process or a prior CP service procedure:

File		Description
CPLOAD	EXEC	CP nucleus load list
CPLOAD	MAP	CP nucleus load map
CPLOAD	MODULE	CP nucleus
ESALCL	PPF	CP local service PPF override file
HCPCOM	ASSEMBLE*	CP command table
HCPCOM	AUXLCL	CP command table control file
HCPCOM	EPICAA	CP command table update file
HCPLDL	ASSEMBLE*	CP nucleus load list module
HCPLDL	AUXLCL	CP nucleus load list module control file
HCPMDLAT	AUXLCL	CP module attribute table control file
HCPMDLAT	EPICAA	CP module attribute table update file
HCPMDLAT	MACRO*	CP module attribute table
HCPVM	CNTRL	Standard CP control file
VMSES	PARTCAT	Parts inventory for local parts
2VMVMB*nn*	VVTLCL	Version vector table for the CP component
2VMVMB*nn*	$SELECT	Object selection file for CP
2VMVMB*nn*	SRVBLDS	Build status table

VM/ESA Release Level

You will need to supply the appropriate VM/ESA release level in several places, as indicated by the variable *nn* in a command. Replace *nn* as follows:

If Release is...	Replace *nn* by...
VM/ESA 2.0	20
VM/ESA 2.1	21
VM/ESA 2.2	22

For example, for version 2 release 2.0, 2VMVMBnn VVTLCL becomes 2VMVMB20 VVTLCL.

STEP 1

Logon to MAINT.

Ensure that its environment is correct for application of CP service. Refer to the IBM *VM/ESA Service Guide* for the requirements. At the time of writing, Step 1 in *Chapter 6 - Procedures for Local Service and Modifications*, contained a description of these requirements. If CP service has previously been applied, the MAINT environment may already be correct.

`SP CONSOLE * CL T START`	Spool console to MAINT for audit trail purposes
`VMFSETUP ESA CP`	Establish the correct MDISK access environment for CP service.

Prepare for the "worst case" scenario of an unusable CP nucleus being installed:

- Using the screen display produced by the VMFSETUP command as a reference, backup all of the MDISK's displayed by the VMFSETUP command (VMFPLC2 is one way of doing this)
- Backup the running CP nucleus.
- Be prepared to do a standalone restore of the backed up CP nucleus or to IPL with an alternate nucleus.

These backups probably will not be needed, but they are "cheap insurance".

STEP 2

`VMFSETUP ESA CP`	Establish the correct MDISK access environment for CP service.

Make a note of the file modes displayed for:

LOCALMOD	disk (usually 2C4)	_____	
APPLYALT	disk (usually 2A6)	_____	(It's the first disk listed in "APPLY" group display)
BUILD7	disk (usually 493)	_____	

STEP 3 (Optional)

Verify that VM service is complete for the CP component by generating a new CP nucleus and testing it before installing the AUTOATTACH feature.

STEP 4

Load the Autoattach files from the BIM-EPIC distribution tape.

Prepare and execute the following VSE job to obtain the BIM-EPIC AUTOATTACH "all VM versions" master file deck:

```
* $$ JOB  JNM=AUTOATT,CLASS=x,LDEST=(,userid),PDEST=(,userid)
// JOB AUTOATT OBTAIN AUTOATTACH MASTER DECK
// EXEC LIBR
 ACCESS  S=lib.sublib
 PUNCH EPAUTO.Z  FORMAT=NOHEADER  EOF=NO
/*
/&
* $$ EOJ
```

x	any desired POWER Job Class
userid	the CMS user id the punch and print output are to be directed to.
lib.sublib	the VSE library and sub-library where the current version of BIM-EPIC is installed.

The card deck produced by this job contains BIM-EPIC AUTOATTACH files for all VM versions. The CMS RECEIVE command is used to bring these files onto the MAINT "A" disk. They are then moved to the LOCALMOD disk.

There are several members in the deck being "received". These messages will be displayed for each AUTOATTACH member in the deck:

```
DMSDSK1079R Receive fn ft fm as fn fm A1?
DMSDSK1079R Reply 0 (NO), 1 (YES), 2 (QUIT), or 3 (RENAME)
```

If the member is listed in the "Installation Files" table, above:

reply 1 to receive it

If it is not listed in the table:

Reply 0 to ignore it

It does no harm if members from other AUTOTACH versions are received, since all file names/types are unique, but this "selective receive" process avoids cluttering the receiving disk.

At the end of the process, the following error messages may be displayed. They can be ignored:

```
DMSDSK078E Invalid card in input deck
DMSDSK1124W Spool file nnnn has been left in your reader
DMSDSK1124W because one or more files were not received
DMSWRC671E Error receiving file ACIMAP EPIC A; rc=32 from DISK LOAD
```

`Q RDR * ALL`	Display the RDR queue
`RECEIVE` *`number`* `(NEW REP`	Move the AUTOATTACH files onto the "A" disk. "(NEW" will cause them to be assigned the current date. *Number* is the file number of the RDR queue entry for the just-punched deck.
`FILEL * *`	Display a list of members on the "A" disk. There should be a MAINT NETLOG member followed by 9 members created as a result of the RECEIVE command. Compare these 9 members with the *Installation Files* table, above. **If any are missing, repeat the RECEIVE command.**
Place the following command next to each of the just-loaded entries in the File List `COPY / = = E` and press the ENTER Key	Copy each of the newly-loaded members to the LOCALMOD disk. If the LOCALMOD entry noted in Step 2, above is not E then use the file mode from Step 2.

	If a message similar to the following appears for CPLOAD AUXLCL:
	
	`DMSCPY024E File CPLOAD AUXLCL E1 already exists specify the REPLACE option`
	
	It means that modifications have already been made to CP LOAD. Do this to add BIM-EPIC's modifications:
	
	`XEDIT CPLOAD AUXLCL A`
	`SCR 2`
	`XEDIT CPLOAD AUXLCL E`
	
	copy the contents of CPLOAD AUXLCL A to CPLOAD AUXLCL E They must be the first/top entry in the "E" member.
	
	FILE the "E" member
	QUIT the "A" member

Place the following command next to each of the just-loaded entries in the File List `ERASE` and press the ENTER Key	Erase the newly-loaded members from the "A" disk.

STEP 5

Update the Local Version Vector Table for the CP component to reflect the new BIM-EPIC updates to the HCPMDLAT, HCPLDL and CPLOAD parts.

The following commands create a 2VMVMBnn VVTLCL member on the LOCALMOD disk.

"nn" is the VM/ESA Version 2 release level.
If VM/ESA Ver 2 Rel 2.0, "nn" is replaced with "20"

If the LOCALMOD entry noted in Step 2, above is not E then use the file mode from Step 2.

```
VMFSIM LOGMOD 2VMVMBnn VVTLCL E TDATA :PART HCPMDLAT MAC :MOD LCLEPIC.EPICAA
VMFSIM LOGMOD 2VMVMBnn VVTLCL E TDATA :PART HCPLDL TXT :MOD LCLEPIC.EPICAA
VMFSIM LOGMOD 2VMVMBnn VVTLCL E TDATA :PART HCPCOM TXT :MOD LCLEPIC.EPICAA
```

STEP 6

Create or update the service selection file to identify which CP parts must be built.

The following commands create a 2VMVMBnn $SELECT member on the APPLYALT disk:

"nn" is the VM/ESA Version 2 release level.
If VM/ESA Ver 2 Rel 2.0, "nn" is replaced with "20"

`xedit 2VMVMB`*`nn`* `$SELECT G`	Create the member or edit the existing member. If the APPLYALT File Mode noted in Step 2, above is different for your installation, use it instead of **G.**
`top`	Go to beginning/top of the file.
`input :APPLYID.  mm/dd/yy hh:mm:ss`	Replace mm/dd/yy and hh:mm:ss with the current date and time so the need for a build can be determined. There is a period (.) after :APPLYID.
`input HCPMDLAT MACRO`	Add a data line.
`input CPLOAD EXC`	Add a data line.
`file`	
`xedit EPICAA PARTCAT E`	There are two entries with **PRODID.6VMVMB22** in them. Change these entries to **PRODID.2VMVMB20.** If the LOCALMOD entry noted in Step 2, above is not E then use the file mode from Step 2.
`file`	
`xedit VMSES PARTCAT G`	The parts catalog for HCPGVA and HCPGVD.
bot	Go to end/bottom of the file.
`Get EPICAA PARTCAT`	Add EPIC PARTCAT entries.
`file`	

STEP 7

Add the Autoattach entries to the module attribute table. Create an auxiliary control file first, then use Xedit Update to generate an update file. Ignore the DMSXUP180W message when creating the new update file.

Next rebuild the HCPGPI MACLIB where HCPMDLAT resides.

`xedit HCPMDLAT AUXLCL E`	Create an AUX control file for HCPMDLAT and insert a line for the BIM-EPIC Autoattach update.
`top`	If this file exists, the BIM-EPIC update must be at the top.
`input EPICAA LCL LCLEPIC * EPIC AUTOATTACH`	
`file`	Save the file to your LOCALMOD disk.
`xedit HCPMDLAT MACRO ( CTL HCPVM`	Edit the module attribute table under update control. Ignore the DMSXUP180W Missing PTF file message.
`Fm E`	If the LOCALMODE entry noted in Step 2, above is not E then use the file mode from Step 2.
`find .EHCPENA`	Locate this label.
`get = HCPGVA`	Insert update for VATTACH.
`get = HCPGVD`	Insert update for VDETACH.
`file`	Save this file to your LOCALMOD disk.
`GENCPBLS CPLOAD ESA CP (OUTMODE LOCALMOD $SELECT LOGMOD`	Create a new CP Load List.
`VMFBLD PPF ESA CP HCPGPI (SERVICED`	Rebuild the HCPGPI MACLIB.

STEP 8

Assemble the BIM-EPIC AUTOATTACH programs using the high-level assembler. Assembling these programs on your VM system ensures that the copybooks and macros used are at the correct service level.

`VMFHLASM HCPGVA ESA CP`	Assemble the VATTACH command.
`VMFHLASM HCPGVD ESA CP`	Assemble the VDETACH command.
`FILEL * * A`	Display contents of “A” disk
	There will be an entry for HCPGVA TXT00000 and HCPGVD TXT00000

Place the following next to each of these entries **COPY / = = E** and press ENTER key	Move the TXT00000 modules to the LOCALMOD disk. If the LOCALMOD entry noted in Step 2, above is not **E** then use the file mode from Step 2.
Place the following command next to each of these entries **ERASE** and press ENTER Key	Remove the TXT00000 modules from the "A" disk. If the LOCALMOD entry noted in Step 2, above is not **E** then use the file mode from Step 2.

STEP 9

Add the VATTACH and VDETACH commands to the CP command table.

`xedit HCPCOM AUXLCL E`	Edit or create a new AUX control file for HCPCOM.
`top`	Insert a line at the top to describe the new source update file which will be file on the LOCALMOD disk.
`input EPICAA LCL LCLEPIC * EPIC AUTOATTACH`	
`file`	File th AUX control file
`xedit HCPCOM ASSEMBLE ( CTL HCPVM`	Edit the CP command table. Ignore the DMSXUP180W Missing PTF file HCPCOM EPICAA A message.
`Fm E`	If the LOCALMOD entry noted in Step 2, above is not **E** then use the file mode from Step 2.
	Entries in HCPCOM must be in alphabetical order.
`locate /COMMAND=(VARY/`	Locate the VARY command.
`down 1`	
`get = VATTESA`	Insert the VATTACH definition after VARY.
`locate /COMMAND=(VDELETE/`	Locate the VDELETE command
`down 1`	
`get = VDETESA`	Insert the VDETACH definition.
`file`	File the member.
`VMFHLASM HCPCOM ESA CP`	Assemble command table.
Filel * * A	Display contents of "A" disk.
	There will be an entry for HCPCOM TXTLEPIC

Place the following next to this entry **COPY / = = E** and press ENTER	Move the TXTLEPIC module to the LOCALMOD disk. If the LOCALMOD entry noted in Step 2, above is not **E** then use the file mode from Step 2.
Place the following next to this entry **ERASE** and press ENTER	Remove the TXTLEPIC module from the "A" disk.

STEP 10

Build a new CP nucleus. If prior steps did not complete properly, errors can be produced by VMFBUILD. Correct any errors before going on to the next step.

`VMFSIM LOGMOD 2VMVMB20 VVTLCL E TDATA :PART CPLOAD EXC :MOD LCLEPIC`	Add a CPLOAD entry to the Version Vector Table The command is typed on a single line. If the LOCALMOD entry noted in Step 2, above is not **E** then use the file mode from Step 2
`VMFBLD PPF ESA CP CPLOAD ( ALL`	Build the CP Nucleus. **Make sure the following message has a 0 return code**: VMFBLD1851I (1 of 1) VMFBDNUC completed with return code 0
`XEDIT CPLOAD MAP`	To check for unresolved/undefined
`SET CASE MIXED IGNORE`	Ignore case when searching
`ALL /UNRESOLV/`	
`ALL /UNDEFINE/`	If any unresolved or undefined items are found, do not continue until they are corrected.
`QUIT`	End the XEDIT

STEP 11

Move the new nucleus into production by copying the CPLOAD MODULE to the CP PARM disk.

`Q CPDISK`	Display the CP PARM disks. You will see a display similar to the following:
	`PARM1 MAINT 0CF1 A R/O`
	`PARM2 MAINT 0CF2 B R/O`

`CPREL A`	Release the PARM1 disk.
`LINK MAINT CF1 CF1 MR`	Link to the PARM1 disk. If PARM1 was not **CF1**, then use the cuu from the Q CPDISK display.

`ACCESS CF1 Z`	Access the PARM1 disk. If PARM1 was not **CF1**, then use the cuu from the Q CPDISK display.
`COPY CPLOAD MODULE K = = Z ( OLDI REPLACE`	Copy the nucleus to the parms disk. (You may want to rename the existing module first.) If the BUILD7 entry noted in Step 2, above is not **K** then use the file mode from Step 2.
`REL Z(DET`	Return Parm1.
`CPACCESS MAINT CF1 A SR`	Disk to CP control.

STEP 12

IPL and test the BIM-EPIC AUTOATTACH commands. After completing this step, test Autoattach using BIM-EPIC . The following description assumes that the MAINT machine has CMS Class B and Class G privileges.

`CP SHUTDOWN REIPL`	Shutdown VM and re-IPL.
Logon to MAINT	
`SP CONSOLE * CL T START`	Spool console to MAINT for audit trail purposes.
`Q COMMANDS`	Display a list of CP commands. VATTACH and VDETACH should appear in the list.
`VATTACH` *`rdef`* `* 181`	Test the VATTACH command *rdef* is the address of a “real” tape drive.
`Q TAPES`	Query tapes and verify that *rdef* is attached to MAINT.
`VDETATCH 181`	Test the VDETACH command.
`Q TAPES`	Query tapes and verify that *rdef* is not attached to MAINT.

After Step 12 is completed, BIM-EPIC VATTACH and VDETACH commands can be used by an operator and will automatically be used by VSE Guests that have started BIM-EPIC with these OPTION statements included in the configuration options:

AUTOATT=YES
VM=YES

Autoattach Installation for VM/ESA Version 1 Release 2 Using VMSES/E

Installation Requirements

Please review the installation assumptions at the beginning of the chapter.

The instructions in this section assume that you use VMSES/E procedures and tools to install Autoattach. The term **LOCALMOD disk** refers to the MAINT minidisk where you maintain your installation's modifications to CP. These instructions assume that you are using the VMSES/E-specified 2C4 disk. Although some files will be created on the MAINT A-disk, they will be moved to other minidisks as prescribed by VMSES/E.

Installation Files

The following files are loaded from the DTR tape:

File	Description
CPLOAD AUXLCL	CPLOAD update control file
EPICAA DOCESA2	Documentation updates
EPICAA PARTCAT	Parts catalog entries for Autoattach
HCPCOM VATTESA	HCPCOM update file to add VATTACH
HCPCOM VDETESA	HCPCOM update file to add VDETACH
HCPGVA ASSEMBLE	Source code for VATTACH command
HCPGVD ASSEMBLE	Source code for VDETACH command
HCPLDL EPICAA	CP nucleus load list module update
HCPMDLAT HCPGVA	HCPMDLAT update file for HCPGVA module
HCPMDLAT HCPGVD	HCPMDLAT update file for HCPGVD module

The following IBM files are updated or created:

File	Description
CPLOAD EXEC	CP nucleus load list
CPLOAD MAP	CP nucleus load map
CPLOAD MODULE	CP nucleus
ESA PPF	CP local service PPF override file
HCPCOM ASSEMBLE*	CP command table
HCPCOM AUXLCL	CP command table control file
HCPCOM EPICAA	CP command table update file
HCPLDL ASSEMBLE*	CP nucleus load list module
HCPLDL AUXLCL	CP nucleus load list module control file
HCPMDLAT AUXLCL	CP module attribute table control file
HCPMDLAT EPICAA	CP module attribute table update file
HCPMDLAT MACRO*	CP module attribute table
HCPVM CNTRL	Standard CP control file
VMSES PARTCAT	Parts inventory for local parts
6VMVMB*nn* VVTLCL	Version vector table for the CP component
6VMVMB*nn* $SELECT	Object selection file for CP
6VMVMB*nn* SRVBLDS	Build status table

* These files must be loaded from your product source tape to the BASE SOURCE disk and unpacked.

VM/ESA Release Level

You will need to supply the appropriate VM/ESA release level in several places, as indicated by the variable *nn* in a command. Replace *nn* as follows. Be sure to edit VVT* LCL to see what "nn" should be changed to.:

If Release is...	Replace *nn* by...
VM/ESA 2.0	20
VM/ESA 2.1	21
VM/ESA 2.2	22

STEP 1

Before installing Autoattach, back up all MAINT minidisks as well as the running CP nucleus.

STEP 2

Set up the MAINT environment to service CP. MAINT must have sufficient storage and be operating in XA mode. If you have defined a nucleus with a preferred virtual machine, storage must be four (4) megabytes greater than the sum of VRSIZE, VRFREE and RIO370 in the SYSSTORE macro in HCPSYS ASSEMBLE.

```
CP SET MACHINE XA                  Operate in XA mode.
CP DEFINE STORAGE 24M              Define sufficient storage.
CP IPL 190 CLEAR PARM AUTOCR       IPL non-shared CMS.
CP SPOOL PRT *                     Spool the printer and punch output
CP SPOOL PUN *                     back to your reader. Save console
CP SPOOL CONS START *              log for problem determination.
ACCESS 51D D/D                     Access VMSES/E tools.
ACCESS 5E5 B/B

VMFSETUP ESA CP                    Access your CP minidisks defined by the PPF file. Make a
                                   note of the LOCALMOD disk filemode (2C4) and the
                                   APPLYALT disk filemode (2A6).
```

STEP 3

Verify that VM service is complete for the CP component by generating a new CP nucleus and testing it. Perform STEP 11 now before installing Autoattach to verify that your service is current. If no problems are detected, continue with STEP 4.

STEP 4

Load the Autoattach files from the distribution tape.

During a BIM-EPIC installation, the Autoattach files are loaded to a VSE library. Execute LIBR as shown below, using your userid and sublibrary name. The PUNCH (PU) line above must be specified exactly as shown. Output is sent to the issuing machine.

```
* $$ JOB JNM=LIBR,CLASS=A,LDEST=(,userid),PDEST=(,userid)
// JOB LIBR
// EXEC LIBR
ACCESS S=lib.sublib
PUNCH EPAUTO.Z FORMAT=NOHEADER EOF=NO
/*
/&
* $$ EOJ
```

Issue the command below. *filemode* is the file mode of your LOCALMOD disk (2C4).

```
RECEIVE file-number filename filetype filemode
```

It is normal to receive error messages “Invalid card in input deck” and “Spool file left in reader”. These can be disregarded. If the VM programmer uses a device type that does not punch a blank card, these messages do not appear.

STEP 5

Update the Local Version Vector Table for the CP component to reflect the new BIM-EPIC updates to the HCPMDLAT, HCPLDL and CPLOAD parts.

The following commands create a file on the LOCALMOD disk called 6VMVMB*nn* VVTCTL. Be sure to replace fm-LOCALMOD with the proper filemode. Also note that the commands are continued to a second line here.

```
VMFSIM LOGMOD 6VMVMBnn VVTLCL fm-LOCALMOD TDATA          (cont'd.)
:PART HCPMDLAT MAC :MOD LCLEPIC.EPICAA
VMFSIM LOGMOD 6VMVMBnn VVTLCL fm-LOCALMOD TDATA          (cont'd.)
:PART HCPLDL TXT :MOD LCLEPIC.EPICAA
VMFSIM LOGMOD 6VMVMBnn VVTLCL fm-LOCALMOD TDATA          (cont'd.)
:PART HCPCOM TXT :MOD LCLEPIC.EPICAA
```

STEP 6

Create or update the service selection file to identify which CP parts must be built. This $SELECT file must reside on the APPLYALT disk (2A6). Then create or update the local parts catalog to add Autoattach parts.

```
xedit 6VMVMBnn $SELECT
top
input :APPLYID.  mm/dd/yy hh:mm:ss
```

Edit the $SELECT file to add an entry for this project.
Use the current date and time for the :APPLYID tag so the need for a build can be determined.

```
/HCPMDLAT MACRO
```

If XEDIT replies "not found" then enter

```
input CPLOAD EXC
set fmode fm-APPLYALT
```

This file must be saved to the APPLYALT disk.

```
file

xedit VMSES PARTCAT fm-LOCALMOD
```

The parts catalog for HCPGVA and HCPGVD must reside on fm-LOCALMOD.

```
bottom
get EPICAA PARTCAT
file
```

If the EPICAA PARTCAT file is not on your tape, see below.

EPICAA PARTCAT File

If the parts catalog was not included on older distribution tapes, it can be created as a variable-length file on the fm-LOCALMOD disk. Create the file with the following two lines:

```
:PARTID.HCPGVA ASSEMBLE :PRODID.6VMVMBnn%CP          (cont'd)
:STAT.VMFREC.02/26/93.01:01:13.MAINT
:PARTID.HCPGVD ASSEMBLE :PRODID.6VMVMBnn%CP          (cont'd)
:STAT.VMFREC.02/26/93.01:01:13.MAINT
```

STEP 7

Add the Autoattach entries to the module attribute table. Create an auxiliary control file first, then use Xedit Update to generate an update file. Ignore the DMSXUP180W message when creating the new update file. Then rebuild the HCPGPI MACLIB where HCPMDLAT resides.

```
xedit HCPMDLAT AUXLCL
```
Create an AUX control file for HCPMDLAT and insert a line for the BIM-EPIC Autoattach update.

```
top
```
If this file exists, the BIM-EPIC update must be at the top.

```
input EPICAA LCL LCLEPIC * BIM-EPIC AUTOATTACH
set fmode fm-LOCALMOD
file
```
Save the file to your LOCALMOD disk.

```
xedit HCPMDLAT MACRO ( CTL HCPVM
```
Edit the module attribute table under update control to create HCPMDLAT EPICAA.

```
find .EHCPGIV
```
Locates the tag.

```
get = HCPGVA
```
Copy in updates HCPGVA and HCPGVD in the appropriate location to position them in alphabetic order in the NON-MP, PAGEABLE section of the table.

```
get = HCPGVD
set fmode fm-LOCALMOD
file
```
Save this file to your LOCALMOD disk.

Rebuild the HCPGPI MACLIB. This replaces the existing maclib on the BUILD (490) disk.

```
VMFBLD PPF ESA CP HCPGPI HCPMDLAT (SERVICED
```

STEP 8

Assemble the Autoattach programs using the high-level assembler. Assembling these programs on your VM system ensures that the copybooks and macros used are at the correct service level. The resulting text files must be moved to the LOCALMOD disk.

```
VMFHLASM HCPGVA ESA CP
```
Assemble the VATTACH command.

```
VMFHLASM HCPGVD ESA CP
```
Assemble the VDETACH command.

Move the files to LOCALMOD disk.

```
COPYFILE HCPGVA TXT00000 A = = fm-LOCALMOD
COPYFILE HCPGVD TXT00000 A = = fm-LOCALMOD
ERASE HCPGVA TXT00000 A
ERASE HCPGVD TXT00000 A
```

STEP 9

Add the VATTACH and VDETACH commands to the CP command table. Create an auxiliary control file first, then generate an update file. Ignore the DMSXUP180W message when creating the new update file. Then assemble HCPCOM and move the text to the LOCALMOD disk.

```
xedit HCPCOM AUXLCL
top
```
Edit or create a new AUX control file for HCPCOM and insert a line at the top to describe the new source update file which will be file on the LOCALMOD disk.

```
input EPICAA LCL LCLEPIC * BIM-EPIC AUTOATTACH
set fmode fm-LOCALMOD

file
```
Note that command entries must be kept in alphabetic order.

```
xedit HCPCOM ASSEMBLE ( CTL HCPVM

locate /COMMAND=(VARY/
down 1
get = VATTESA
locate /COMMAND=(VDELETE/
down 1
get = VDETESA
set fmode fm-LOCALMOD
file

VMFHLASM HCPCOM ESA CP

COPY HCPCOM TXTLEPIC A = = fm-LOCALMOD
ERASE HCPCOM TXTLEPIC A
```
Edit the command table in update mode.
Locate the VARY command.
Insert the VATTACH definition after VARY.
Locate the VDELETE command and then insert the VDETACH definition.
Save the update to the LOCALMOD disk.
Assemble command table.
Move the text file to LOCALMOD disk.

STEP 10

Update the nucleus load list. First create an auxilliary control file and then assemble HCPLDL to generate the load list. The resulting text must be renamed and moved to the LOCALMOD disk. The APAR information must also be commented out. Note that the HCPLDL EPICAA update file which was loaded from the tape is a dummy update file. It only serves to document the change to the load list which is effected by the changes to HCPMDLAT.

```
xedit HCPLDL AUXLCL
top
```
Edit or create a new AUX control file for HCPLDL and insert a line at the top to describe the new source update file which is called HCPLDL EPICAA.

```
input EPICAA LCL LCLEPIC * BIM-EPIC AUTOATTACH
set fmode fm-LOCALMOD
file
```
Save the new file on the LOCALMOD disk.

```
VMFHLASM HCPLDL ESA CP (NOCKGEN

COPYFILE HCPLDL TXTLEPIC A = = fm-LOCALMOD ( OLDDATE REPLACE
ERASE HCPLDL TXTLEPIC A
xedit HCPLDL TXTLEPIC fm-LOCALMOD
top
set fname CPLOAD

set ft EXCLEPIC
change //*/ /&CONTROL OFF/

file
```
Assemble HCPLDL.
Move the new text file to the LOCALMOD disk.
Edit the new load list.
Change the name to CPLOAD EXCLEPIC.
Comment out the update information.
Save it to the LOCALMOD disk.

STEP 11

Build a new CP nucleus. If prior steps did not complete properly, errors can be produced by VMFBUILD. Correct any errors before going on to the next step. Add an entry to the version vector table for CPLOAD. VMFBLD replaces your existing CPLOAD MAP A and CPLOAD MODULE fm-BUILD.

```
VMFSIM LOGMOD 6VMVMBnn VVTLCL fm-LOCALMOD TDATA
:PART CPLOAD EXC :MOD LCLEPIC
```
(continued...)

```
VMFBLD PPF ESA CP CPLOAD ( ALL
```
Invoke the CP build process. If successful, it will create new CPLOAD MAP and CPLOAD MODULE files.

```
xedit CPLOAD MAP
set case mixed ignore
all /unresolv/
all /undefine/
qquit
```
Check the load map for any unresolved or undefined reference errors. Do not continue if any errors are found. Correct any problems before continuing.

STEP 12

Move the new nucleus into production by copying the CPLOAD MODULE to the CP PARM disk.

```
Q CPDISK
CPREL A
```
Display and release the CP PARM DISK.

```
LINK MAINT CF1 CF1 MR
ACCESS CF1 Z
```
Link and access the parm disk.

Copy the nucleus to the parms disk. You may want to rename the existing module first.

```
COPYFILE CPLOAD MODULE fm-TOOLS = = fm-CF1 ( OLDD REPLACE
```

```
CP SHUTDOWN REIPL
```
Shut down your system and re-IPL.

STEP 13

IPL and test the new system. After completing this step, test Autoattach using BIM-EPIC.

```
CP COMMANDS
```
From a class BG machine, VATTACH and VDETACH should be shown in the commands list.

```
VATTACH rdev * 181
```
Test the VATTACH command. Supply a real tape drive address.

```
QUERY TAPES
QUERY VIRTUAL TAPES
```
Query tapes to verify that the drive was really attached.

```
VDETACH 181
```
Test the VDETACH command.

```
QUERY TAPES
QUERY VIRTUAL TAPES
```
Query tapes again to verify that the drive was really detached.

Autoattach Installation for VM/ESA Version 1 Release 1.1 Using VMSES/E

Installation Requirements

These Autoattach installation instructions assume that you have experience in generating and servicing a VM/ESA CP nucleus using VMSES/E service procedures and tools. If you do not perform each step without error, your system could become inoperable.

Autoattach is installed as a local service modification to the C component of VM. These instructions are only a "guide" to installing Autoattach. If these instructions are unclear, incomplete or conflicting, you should consult your "VM Service Guide" for definitive procedures. If you experience problems with the Autoattach feature itself, please contact BIM-EPIC Technical Support.

The term **LOCALMOD disk** refers to the MAINT minidisk where you maintain your installation's modifications to CP. These instructions assume that you are using the VMSES/E specified 2C4 disk. Although some fileswill be created on the MAINT A-disk, they will be moved to the LOCALMOD disk before the CP nucleus is generated.

How To Use These Instructions

For each step there is an overview of the process to be accomplished followed by two columns of instructions. The left column contains the actual CMS and/or CP commands to be issued and the right column contains an explaination of what is being done. For Xedit procedures, the Xedit subcommands to be issued will be indented following the actual Xedit command line.

Installation Files

The following files are loaded from the DTR tape:

File	Description
CPLOAD AUXLCL	CPLOAD update control file
EPICAA DOCESA	Documentation updates
HCPCOM VATTESA	HCPCOM update file to add VATTACH command
HCPCOM VDETESA	HCPCOM update file to add VDETACH command
HCPGVA ASSEMBLE	Source code for VATTACH command
HCPGVD ASSEMBLE	Source code for VDETACH command
HCPLDL EPICAA	CP nucleus load list module update
HCPMDLAT HCPGVA	HCPMDLAT update file for HCPGVA module
HCPMDLAT HCPGVD	HCPMDLAT update file for HCPGVD module

The following IBM files are updated or created:

File	Description
CPLOAD EXEC	CP nucleus load list
HCPCOM ASSEMBLE	CP command table
HCPCOM AUXLCL	CP command table control file
HCPCOM EPICAA	CP command table update file
HCPLCL EXEC	HCPLCL MACLIB member list
HCPLDL ASSEMBLE	CP nucleus load list module
HCPLDL AUXLCL	CP nucleus load list module control file
HCPMDLAT AUXLCL	CP module attribute table control file
HCPMDLAT EPICAA	CP module attribute table update file
HCPMDLAT MACRO	CP module attribute table
HCPVM CNTRL	Standard CP control file
6VMVMB11 VVTLCL	Version vector table for the CP component
6VMVMB11 $SELECT	Object selection file for CP

* These files must be loaded from your product source tape to the BASE SOURCE disk and unpacked.

STEP 1

Before installing Autoattach, back up your running CP nucleus. Also back up the MAINT machine LOCALMOD and 191 disks.

`DDR`	Invoke DASD Dump/Restore program.
`input cuu 33xx volid`	Specify your CP sysres address and device type and your tape
`OUTPUT cuu 34xx`	address and device type. DUMP
`DUMP NUCLEUS`	NUCLEUS will dump the IPL tracks as well as the nucleus cylinders.
`VMFPLC2 DUMP * * A`	Copy all A-disk files to another tape and then access and repeat this command for your LOCALMOD disk (2C4).

STEP 2

Verify that VM service is complete for the CP component by generating a new CP nucleus and testing it. Perform STEP 11A or STEP 11B now before installing Autoattach to verify your build process. If no problems are detected, continue with STEP 3.

STEP 3

Set up the MAINT environment to service CP. MAINT must have sufficient storage and be operating in XA mode. If you have defined a nucleus with a preferred virtual machine, storage must be four (4) megabytes greater than the sum of VRSIZE, VRFREE and RIO370 in the SYSSTORE macro in HCPSYS ASSEMBLE.

`CP SET MACHINE XA`	Operate in XA-mode.
`CP DEFINE STORAGE 24M`	Define sufficient storage.
`CP IPL 190 CLEAR PARM AUTOCR`	IPL CMS.
`CP SPOOL PRT *`	Spool the printer and punch output back to your reader.
`CP SPOOL PUN *`	
`ACCESS 51D D/D`	Access VMSES/E tools.
`ACCESS 5E5 B/B`	
`VMFSETUP ESA CP`	Access your CP minidisks defined by the PPF file. Make a note of the LOCALMOD disk filemode (2C4).

STEP 4

Load the Autoattach files from the distribution tape.

During a BIM-EPIC installation, the Autoattach files are loaded to a VSE library. Execute LIBR as shown below, using your userid and sublibrary name. The PUNCH (PU) line above must be specified exactly as shown. Output is sent to the issuing machine.

```
* $$ JOB JNM=LIBR,CLASS=A,LDEST=(,userid),PDEST=(,userid)
// JOB LIBR
// EXEC LIBR
ACCESS S=lib.sublib
PUNCH EPAUTO.Z FORMAT=NOHEADER EOF=NO
/*
/&
* $$ EOJ
```

Issue the command below. *filemode* is the file mode of your LOCALMOD disk (2C4).

`RECEIVE` *`file-number filename filetype filemode`*

It is normal to receive error messages “Invalid card in input deck” and “Spool file left in reader”. These can be disregarded. If the VM programmer uses a device type that does not punch a blank card, these messages do not appear.

STEP 5

Modify the control file to include a local service maclib which contains the updated HCPMDLAT macro. HCPVM is the default name of the control file. You can determine the name that VMSES will use by looking for the :CNTRL. tag in the :COMPNAME. CP section of ESA PPF.

`xedit HCPVM CNTRL`	Edit the control file.
`top`	
`locate /MACS/`	
`change/MACS/MACS HCPLCL/ 1`	Insert HCPLCL into the MACS line ahead of the other maclibs.
`set fmode fm-LOCALMOD`	
`file`	Save the file to your LOCALMOD disk.

STEP 6

Add the Autoattach entries to the module attribute table. Create an auxiliary control file first, then use Xedit Update to generate an update file. Ignore the DMSXUP180W message when creating the update.

NOTE: In VM/ESA 1.0 base code, the HCPGVA and HCPGVD entries go after HCPENA. In VM/ESA 1.1 base code, they go after HCPGIV. You can determine your base source level by editing HCPOPTNS COPY and locating global variable label &HCPVRSN.

```
xedit HCPMDLAT AUXLCL
top
```

Create an AUX control file for HCPMDLAT.

Insert a line for the BIM-EPIC Autoattach update. If this file exists, the BIM-EPIC update must be at the top.

```
input EPICAA LCL LCLEPIC * GSI EPIC AUTOATTACH
set fmode fm-LOCALMOD
file
```

Save the file to your LOCALMOD disk.

Edit the module attribute table under update control to create HCPMDLAT EPICAA.

```
xedit HCPMDLAT MACRO ( CTL HCPVM
find tag
```

Locates the tag. The value of *tag* depends on the VM/ESA release level as follows:

VM/ESA 1.0: find .EHCPENA
VM/ESA 1.1: find .EHCPGIV

```
get = HCPGVA
get = HCPGVD
```

Copy in updates HCPGVA and HCPGVD in the appropriate location to position them in alphabetic order in the NON-MP, PAGEABLE section of the table. This should be after label .EHCPGIV.

```
set fmode fm-LOCALMOD
file
```

Save this file to your LOCALMOD disk.

STEP 7

Create a new HCPLCL MACLIB containing the updated HCPMDLAT macro. A member list, HCPLCL EXEC, must be created and then the maclib is built. The new maclib should be moved to your LOCALMOD disk.

```
xedit HCPLCL EXEC
```

Edit or create a member list for HCPLCL MACLIB.

```
set stay off
locate /HCPMDLAT/
```

Search for an existing entry for HCPMDLAT if the member list already exists.

```
input &1 &2 HCPMDLAT MACRO &3 &4
set fmode fm-LOCALMOD
file
```

Insert an entry for it if there is none.
Save this file to your LOCALMOD disk.

```
VMFMAC HCPLCL HCPVM
```

Generate the new maclib.
Move the maclib to your LOCALMOD disk.

```
COPYFILE HCPLCL MACLIB A = = fm-LOCALMOD
ERASE HCPLCL MACLIB A
```

STEP 8

Assemble the Autoattach modules using the high-level assembler. The resulting text files must be moved to the LOCALMOD disk.

```
VMFHLASM HCPGVA ESA CP                  Assemble the VATTACH command.
VMFHLASM HCPGVD ESA CP                  Assemble the VDETACH command.
                                        Move the files to LOCALMOD disk.
COPYFILE HCPGVA TEXT A = = fm-LOCALMOD
COPYFILE HCPGVD TEXT A = = fm-LOCALMOD
ERASE HCPGVA TEXT A
ERASE HCPGVD TEXT A
```

STEP 9

Add the VATTACH and VDETACH commands to the CP command table. Create an auxiliary control file first, then generate an update file. Ignore the MSXUP180W message when creating the update.

NOTE: The VDELETE command was added in VM/ESA 1.1 base source. VM/ESA 1.0 users should just insert both updates after the VARY command. The command table must be kept in alphabetical sequence!

```
xedit HCPCOM AUXLCL                     Edit or create a new AUX control file
                                        for HCPCOM
top                                     Insert a line at the top to describe the
                                        new source update file which will be
                                        called HCPCOM EPICAA.
input EPICAA LCL LCLEPIC * GSI EPIC AUTOATTACH
set fmode fm-LOCALMOD                   Save the new file on the LOCALMOD
file                                    disk.
xedit HCPCOM ASSEMBLE ( CTL HCPVM       Edit the command table in update
                                        mode.
find HCPCOMCV                           Find the 'V' commands and locate the
locate /COMMAND=(VARY/                  VARY command.
down 1                                  Insert the VATTACH definition after
get = VATTESA                           VARY.
locate /COMMAND=(VDELETE/               If your base code is VM/ESA 1.1 or
down 1                                  above, locate the VDELETE command
get = VDETESA                           before inserting the VDETACH
                                        definition.
set fmode fm-LOCALMOD                   Save the update to the LOCALMOD
file                                    disk.
```

STEP 10

Assemble the CP command table. The resulting text file will have a file type of TXTLCL and should be moved to the LOCALMOD disk.

```
VMFHASM HCPCOM ESA CP                   Assemble the command table. Move the text file
                                        to LOCALMOD disk.
COPY HCPCOM TXTLEPIC A = = fm-LOCALMOD
ERASE HCPCOM TXTLEPIC A
```

STEP 11A

VM/ESA 1.0 base level users must perform STEP 11B instead.

Update the nucleus load list. First create an auxilliary control file and then assemble HCPLDL to generate the load list. The resulting text must be renamed and moved to the LOCALMOD disk. The APAR information must also be commented out. Note that the HCPLDL EPICAA update file which was loaded from the tape is a dummy update file. It only serves to document the change to the load list which is effected by the changes to HCPMDLAT.

`xedit HCPLDL AUXLCL` `top`	Edit or create a new AUX control file for HCPLDL and insert a line at the top to describe the new source update file which is called HCPLDL EPICAA.
`input EPICAA LCL LCLEPIC * GSI EPIC AUTOATTACH`	
`set fmode fm-LOCALMOD` `file`	Save the new file on the LOCALMOD disk.
`VMFHASM HCPLDL ESA CP`	Assemble HCPLDL. The new text file must be renamed to CPLOAD EXCLEPIC and moved to the LOCALMOD disk.
`COPYFILE HCPLDL TXTLEPIC A CPLOAD EXCLEPIC fm-LOCALMOD (OLDDATE`	
`ERASE HCPLDL TXTLEPIC A`	The HCPLDL text file can be erased since it is no longer needed.
`xedit CPLOAD EXCLEPIC` `top`	Edit the new load list exec and make sure all APAR information lines are preceded by an *.
`change '/* '&CONTROL OFF'2` `file`	

STEP 11B

VM/ESA 1.1 base level users must perform STEP 11A instead.

Update the nucleus load list. First create an auxiliary control file and then assemble HCPLDL to generate the load list. The resulting text must be moved to the LOCALMOD disk. Then use the UTILITY EXEC to generate a new CPLOAD EXEC. Note that the HCPLDL EPICAA update file which was loaded from the tape is a dummy update file. It only serves to document the change to the load list which is affected by the changes to HCPMDLAT.

`xedit HCPLDL AUXLCL`	Edit or create a new AUX control file for HCPLDL.
`top`	Insert a line at the top to describe the new source update file which is called HCPLDL EPICAA.
`input EPICAA LCL LCLEPIC * GSI EPIC AUTOATTACH`	
`set fmode fm-LOCALMOD` `file`	Save the new file on the LOCALMOD disk.
`VMFHASM HCPLDL ESA CP`	Assemble HCPLDL. The new text file must then be moved to the LOCALMOD disk.
`COPYFILE HCPLDL TXTLEPIC A = = fm-LOCALMOD ( OLDDATE`	
`ERASE HCPLDL TXTLEPIC A`	
`UTILITY GEN CPLOAD`	Generate the new CPLOAD EXEC.

STEP 12

VMSES/E users only. VMSES users skip this step.

Update the Local Version Vector Table for the CP component to reflect the new BIM-EPIC updates to the HCPMDLAT, HCPLDL and CPLOAD parts. Create or update the $SELECT file to allow a new CPLOAD part to be built. This $SELECT file must reside on the APPLYALT disk (2A6).

The following commands will create a file on the LOCALMOD disk called 6VMVMB11 VVTCTL. Be sure to replace fm-LOCALMOD with the proper filemode. Also note that the commands had to be continued to a second line here.

```
VMFSIM LOGMOD 6VMVMB11 VVTLCL fm-LOCALMOD TDATA                (cont'd)
:PART HCPMDLAT MAC :MOD LCLEPIC.EPICAA
VMFSIM LOGMOD 6VMVMB11 VVTLCL fm-LOCALMOD TDATA                (cont'd)
:PART HCPLDL ASM :MOD LCLEPIC.EPICAA
VMFSIM LOGMOD 6VMVMB11 VVTLCL fm-LOCALMOD TDATA                (cont'd)
:PART CPLOAD EXC :MOD LCLEPIC
```

```
xedit 6VMVMB11 $SELECT
```
Edit the $SELECT file to add an entry for this project.

```
top
input :APPLYID. mm/dd/yy hh:mm:ss
```
Use the current date and time for the :APPLYID tag so the need for a build can be determined.

```
input HCPMDLAT MACRO
input HCPLDL TXT
input CPLOAD EXC
```
Insert a line for each of the load list parts containing the name and type abbreviation. NOTE: If there is already an entry in the file for any of these three load list parts, **DO NOT** issue the 'input' command for that part.

```
set fmode fm-APPLYALT
file
```
This file must be saved to the APPLYALT disk.

STEP 13

Build a new CP nucleus. Save the load map to your BUILD7 tools disk. If prior steps did not complete properly, this step might cause your system to become inoperable.

```
CP SPOOL PUN *
CP SPOOL PRT *
```
Direct the printer and punch output back to your reader.

```
VMFBLD PPF ESA CP CPLOAD ( ALL
```
Invoke the build process which will generate a new CP load list using the CPLOAD EXCLEPIC file previously created. It will punch the load deck to your reader. Make a note of the spoolid created.

```
CP QUERY RDR * ALL
CP ORDER RDR spoolid
CP CHANGE RDR spoolid KEEP
```
Order the load deck file to the top of your reader and change it to keep. Then IPL the reader to

`CP IPL 00C CLEAR`	load the nucleus. The following message indicates that the nucleus has loaded successfully.
`CP ENTERED; DISABLED WAIT PSW 000A0000 00009010`	

`CP IPL 190 CLEAR`
`ACCESS 493 E`
`CP QUERY RDR * ALL`
	Re-IPL CMS and load the nucleus load map to your test system tools disk, BUILD7.

`RECEIVE spoolid CPNUC MAP E ( REPLACE`	
`xedit CPNUC MAP` `locate /UNRESOLVED/`	Edit the nucleus map and search for any unresolved references. If any are found, they should be corrected and a new nuceus built before continuing from this point.

STEP 14

IPL and test the new system. After completing this step, test Autoattach using BIM-EPIC.

`CP COMMANDS`	From a class BG machine, VATTACH and VDETACH should be shown in the commands list.
`VATTACH rdev * 181`	Test the VATTACH command. Supply a real tape drive address.
`QUERY TAPES` `QUERY VIRTUAL TAPES`	Query tapes to verify that the drive was really attached.
`VDETACH 181`	Test the VDETACH command.
`QUERY TAPES` `QUERY VIRTUAL TAPES`	Query tapes again to verify that the drive was really detached.

Autoattach Installation for VM/XA

Files Needed from the Distribution Tape

File	Description
AUTOATT DOCXA	Preliminary documentation
HCPCOM VATTACH	HCPCOM update for VATTACH command
HCPCOM VDETACH	HCPCOM update for VDETACH command
HCPMDLAT HCPTVA	HCPMDLAT update for HCPTVA module
HCPMDLAT HCPTVD	HCPMDLAT update for HCPTVD module
HCPTVA ASSEMBLE	VATTACH command source
HCPTVD ASSEMBLE	VDETACH command source

IBM Files To Be Updated

File	Description
HCPXA CNTRL	Standard CP control file
HCPCOM ASSEMBLE	CP command table **
HCPLDL ASSEMBLE	CP nucleus load list **
HCPMDLAT MACRO	CP module attribute table **

** source files must be loaded to your CP BASE disk from the source tape and unpacked.

These instructions assume that the user has experience in generating and servicing a VM/XA CP nucleus. Failure to perform each step without error could result in an inoperable system. These instructions are only a guideline to show the steps necessary to successfully install the Autoattach feature. This feature is distributed as a modification to IBM's VM product. If these instructions are unclear, incomplete or conflicting, you should consult the IBM *VM/XA SP Installation and Service* manual for definitive procedures. If you experience problems with the Autoattach feature, please contact BIM-EPIC Technical Support.

The term **Local Service Disk** refers to the MAINT minidisk where your own installation modifications to CP are maintained. For these instructions we will assume that the MAINT 191 A-disk is being used. Many sites use MAINT 295, as well as other disks for the Local Service function. Whichever minidisk you use, it must be accessed ahead of IBM service for Autoattach to be installed successfully.

STEP 1

Before installing Autoattach, back up your running CP nucleus and MAINT local service disk.

```
DDR                          Invoke the DASD Dump/Restore program.
INPUT cuu 33xx volume        Specify your CP sysres address,
OUTPUT cuu 34xx              DASD type and volid.
DUMP NUCLEUS                 DUMP NUCLEUS will provide the nucleus cylinders as
                             well as the IPL tracks on cylinder 0.
VMFPLC2 DUMP * * A           Back up the local service disk using VMFPLC2 or your
                             own procedure.
```

STEP 2

Before performing any installation steps, verify that MAINT service is complete by generating a new CP nucleus and testing it. Follow STEP 13 of this script to generate a CP nucleus and then IPL your machine. If no problems are detected, proceed to STEP 3.

STEP 3

Set up the MAINT environment with 16 meg of storage and access to all CP minidisks.

```
DEFINE STOR 16M
IPL 190
VMFSETUP 56643082 CP ( ALL     Specify product ID 56643082 for VM/XA SP 2.0
                               or 56643089 for VM/XA SP 2.1.
```

STEP 4

Load the Autoattach files from the distribution tape.

During a BIM-EPIC installation, the Autoattach files are loaded to a VSE library. Execute LIBR as shown below, using your userid and sublibrary name. The PUNCH (PU) line above must be specified exactly as shown. Output is sent to the issuing machine.

```
* $$ JOB JNM=LIBR,CLASS=A,LDEST=(,userid),PDEST=(,userid)
// JOB LIBR
// EXEC LIBR
ACCESS S=lib.sublib
PUNCH EPAUTO.Z FORMAT=NOHEADER EOF=NO
/*
/&
* $$ EOJ
```

Issue the command below. *filemode* is the file mode of your LOCALMOD disk (2C4).

```
RECEIVE file-number filename filetype filemode
```

It is normal to receive error messages “Invalid card in input deck” and “Spool file left in reader”. These can be disregarded. If the VM programmer uses a device type that does not punch a blank card, these messages do not appear.

STEP 5

Update the control file to include a local service maclib which will contain the updated HCPMDLAT macro.

```
HCPXA CNTRL
top
c/TEXT MACS/TEXT MACS HCPLCL/*
fm A
file
```

Edit the control file and insert HCPLCL into the MACS line ahead of the other maclibs. Change the filemode to the appropriate local service disk mode.

STEP 6

Add the Autoattach entries to the module attribute table. Create an AUX control file first and use XEDIT Update to generate an update file.

```
xedit HCPMDLAT AUXLCL
top
input EPICAA LCL * GSI EPIC AUTOATTACH
fm A
file
```

Edit or create an aux control file for HCPMDLAT and insert a line at the top to describe the new source update file which will be called HCPMDLAT EPICAA. Change the filemode to the appropriate local service disk.

```
xedit HCPMDLAT MACRO ( CTL HCPXA
find .EHCPTSI
get = HCPTVA
get = HCPTVD
fm A
file
```

Editing the macro source with update control will create a filetype EPICAA. Copy in HCPMDLAT HCPTVA and HCPMDLAT HCPTVD to position them in alpha order in the PAGEABLE, NON-MP section of the table. This should be after the label .EHCPTSI, depending on your service level. Change the filemode to the appropriate local service disk.

STEP 7

Create a new HCPLCL MACLIB containing the updated HCPMDLAT MACRO. The member list, HCPLCL EXEC, must be created or updated to include HCPMDLAT MACRO only once.

```
xedit HCPLCL EXEC
set stay off
/HCPMDLAT/
input &1 &2 HCPMDLAT MACRO &3 &4
fm A
file
```

Edit or create a member list for HCPLCL MACLIB. Search for an existing entry for HCPMDLAT. Only insert an entry for the macro if it does not already exist. Change the file mode to your local service disk mode.

```
VMFMAC HCPLCL HCPXA
```

Generate the new maclib.

STEP 8

Assemble the Autoattach modules, HCPTVA and HCPTVD, using Assembler-H. The resulting text files will have filetype TXTLCL and should be moved to the local service disk.

```
VMFHASM HCPTVA HCPXA
VMFHASM HCPTVD HCPXA
```

STEP 9

Add the VATTACH and VDETACH commands to the CP command table. Create an AUX control file first and use XEDIT Update to generate an update file.

```
xedit HCPCOM AUXLCL
top
```

Edit or create a new AUX control file for HCPCOM

```
input EPICAA LCL * GSI EPIC AUTOATTACH
fm A
file
```

and insert a line at the top to describe the new source update file which will be called HCPCOM EPICAA. Change the file mode to the appropriate local service disk.

```
xedit HCPCOM ASSEMBLE ( CTL HCPXA
find HCPCOMCV
/COMMAND=(VARY/
down 1
get HCPCOM VATTACH
get HCPCOM VDETACH
fm A
file
```

Editing the source with update control will create a filetype EPICAA. NOTE!: The command table must be kept in alpha sequence. Find the 'V' command section and copy in the VATTACH and VDETACH updates into the appropriate positions. In most cases this will place them between VARY and VMDUMP. Change the filemode to the appropriate local service disk.

VM/XA 2.0 users may get assembly errors if update HCPCOM H36104HP is not applied. If this happens, remove the FL1=CMDPROC parameters from HCPCOM VDETACH and then reassemble.

STEP 10

Assemble the CP command table. The resulting text file will have filetype TXTLCL and should be moved to the local service disk.

```
VMFHASM HCPCOM HCPXA
```

STEP 11

Create AUX control and update files to be used to generate load list.

```
xedit HCPLDL AUXLCL
top
```

Edit or create a new AUX control file for HCPLDL Insert a line at the top to describe the new source update file which will be called HCPLDL EPICAA.

```
input EPICAA LCL * GSI EPIC AUTOATTACH
```

```
fm A
```
Change the filemode to the appropriate local service disk.

```
file
xedit HCPLDL EPICAA
top
```
Create a new update file for HCPLDL with only a comment for the resulting CPLOAD EXEC.

```
input ./ * FORCE REASSEMBLY FOR GSI EPIC AUTOATTACH
fm A
file
```
Change the filemode to your local service disk.

STEP 12

Generate a new CP load list by assembling HCPLDL and then invoking the UTILITY EXEC to create CPLOAD EXEC.

```
VMFHASM HCPLDL HCPXA
RENAME HCPLDL TXTLCL A = TEXT =
```
Assemble HCPLDL, rename the resulting TXTLCL file to filetype TEXT and then move it to your local service disk.

```
UTILITY CPLOAD
```
Generate a new CP load list and move the resulting CPLOAD EXEC to your local service disk. The UTILITY EXEC will look for the HCPLDL TEXT which was just created.

STEP 13

Build a new CP nucleus. This procedure may vary for different releases or you may accomplish it using other service aids. This is the recommended approach.

```
CP SPOOL PUN *
CP SPOOL PRT *
CP SPOOL RDR HOLD
VMFBLD 56643082 CP ( PUNCH
```
Spool the virtual punch and printer back to your reader and invoke VMFBLD to create a load deck. Use product ID 56643082 for VM/XA SP 2.0 and 56643089 for VM/XA SP 2.1.

```
ORDER RDR nnnn
IPL 00C CLEAR
CP SPOOL PRT CLOSE
IPL 190
CP QUERY RDR * ALL
RECEIVE nnnn CPNUC MAP A ( REPLACE
```
Order the load deck to the top of the queue and IPL your virtual reader to load the nucleus to the sysres volume. When you have received the 'NUCLEUS LOADED' message, close the virtual printer and then receive the CPLOAD MAP to your local service disk.

```
xedit CPNUC MAP
/UNRESOLVED/
```
Edit the nucleus map and search for any unresolved external references. Any that are found must be determined to be 'normal' or they must be corrected before IPL'ing.

STEP 14 IPL and test the new system. After completing this step, test Autoattach using BIM-EPIC.

`CP COMMANDS`	From a class BG machine, VATTACH and VDETACH should be shown in the commands list.
`VATTACH rdev * 181`	Test the VATTACH command. Supply a real tape drive address.
`QUERY TAPES` `QUERY VIRTUAL TAPES`	Query tapes to verify that the drive was really attached.
`VDETACH 181`	Test the VDETACH command.
`QUERY TAPES` `QUERY VIRTUAL TAPES`	Query tapes again to verify that the drive was really detached.

Autoattach Installation for VM/SP, VM/HPO, and VM/ESA 370

Files Needed from the Distribution Tape

File	Description
ACIMAP EPIC	Access Control Interface entries
	Used by HPO at PUT 8806 or above
AUTOATT DOCSP	Preliminary documentation
DMKCFB VMSP5	Command table update for VM/SP 5 and above
DMKCFC VMSP3	Command table update for VM/SP 3
DMKCFC VMSP4	Command table update for VM/SP 4
DMKCFC VMSP5	Command table update for VM/SP 5 before PUT8806
DMKTSI ASSEMBLE	Autoattach source file
DMKTSI AUXLCL	AUX control file for source updates
DMKTSI EP22002S	Update for VM Release 3 and above
DMKTSI EP22003S	Update for VM Release 3 with VM20560 or above
DMKTSI EP22004S	Update for VM/HPO Release 3
DMKTSI EP22005S	Update for VM/SP Release 4 and above
DMKTSI EP22006S	Update for VM/SP Release 5 and above
DMKTSI EP22007S	Update for VM Release 5 with MP and AFFINITY

IBM Files to be Updated

File	Description
ACIMAP MACRO**	Access Control Interface
	VM/HPO at PUT 8902 or above only
CPLOAD EXEC	Standard system load list. May be different depending on the type of system generated.
DMKCFB ASSEMBLE**	CP command table VM Release 5 PUT8806 & above
DMKCFC ASSEMBLE**	CP command table prior to VM/SP 5 PUT8806
DMKSP CNTRL	Standard CP control file. May be different depending on the type of system generated.

** - must be loaded to the CP BASE(source) disk and unpacked.

NOTE: These instructions assume that the user has experience in generating and servicing a VM/SP or VM/HPO CP nucleus. Failure to perform each step without error could result in an inoperable system.

These instructions are only a guideline to show the steps necessary to successfully install the Autoattach feature. This feature is distributed as a modification to IBM's VM product. If these instructions are unclear, incomplete or conflicting, you should consult your IBM VM/SP or VM/HPO INSTALLATION AND SERVICE manuals for definitive procedures. If you experience problems with the Autoattach feature, please contact BIM-EPIC Technical Support.

The term **Local Service Disk** refers to the MAINT minidisk where your own installation modifications to CP are maintained. For these instructions we will assume that the MAINT 191 A-disk is being used. Many sites use MAINT 295, as well as other disks for the 'Local Service' function. Whichever minidisk you use, it must be accessed ahead of IBM service for Autoattach to be installed successfully.

STEP 1

Before installing Autoattach, back up your running CP nucleus. Also back up the MAINT local service disk.

`DDR`	Invoke the DASD Dump/Restore program.
`input cuu 33xx volume`	Specify your CP sysres address,
`OUTPUT cuu 34xx`	DASD type and volid.
`DUMP NUCLEUS`	DUMP NUCLEUS will provide the nucleus cylinders as well as the IPL tracks on cylinder 0.
`VMFPLC2 DUMP * * A`	Back up the local service disk using VMFPLC2 or your own procedure.

STEP 2

Before performing any installation steps, verify that MAINT service is complete by generating a new CP nucleus and testing it. Follow step 11 of this script to generate a CP nucleus and then IPL your machine. If no problems are detected, proceed to STEP 3.

STEP 3

Set up the MAINT environment with 16 megabytes of storage and access to all CP minidisks.

`DEFINE STOR 16M`	
`IPL 190`	
`VMFSETUP 5664167E CP ( ALL`	Access the CP minidisks
`SPGEN SETUP CP`	for VM/SP Release 6
`procedure-name`	for VM/SP Release 5 Use your own procedure for prior VM releases.

STEP 4

Load the Autoattach files from the distribution tape.

During a BIM-EPIC installation, the Autoattach files are loaded to a VSE library. Execute LIBR as shown below, using your userid and sublibrary name. The PUNCH (PU) line above must be specified exactly as shown. Output is sent to the issuing machine.

```
* $$ JOB JNM=LIBR,CLASS=A,LDEST=(,userid),PDEST=(,userid)
// JOB LIBR
```

```
// EXEC LIBR
ACCESS S=lib.sublib
PUNCH EPAUTO.Z FORMAT=NOHEADER EOF=NO
/*
/&
* $$ EOJ
```

Issue the command below. *filemode* is the file mode of your LOCALMOD disk (2C4).

```
RECEIVE file-number filename filetype filemode
```

It is normal to receive error messages “Invalid card in input deck” and “Spool file left in reader”. These can be disregarded. If the VM programmer uses a device type that does not punch a blank card, these messages do not appear.

STEP 5

Update the control file to include the local service maclib and an AUX record for local service updates. Note that the control file name may be different if you are generating an MP or AP system, with or without a V=R area, or using the small CP option. Your control file may already contain these changes. If so, skip this step.

`xedit DMKSP CNTRL`	Edit the control file
`top`	and insert DMKLCL into
`find TEXT`	the MACS statement ahead
`c/TEXT MACS/TEXT MACS DMKLCL/`	of the other maclibs.
`input LCL AUXLCL`	Then add an AUX control
`fm A`	record for local service.
`file`	Change the filemode to the appropriate local service disk mode. NOTE!: Use the proper control file for your VM system.

STEP 6

If you are generating an HPO system at PUT 8902 or above, the ACIMAP MACRO must be updated to include entries for VATTACH and VDETACH. If not under HPO, skip steps 6 and 7.

`xedit ACIMAP AUXLCL`	Edit or create an AUX control file for ACIMAP
`top`	Insert a line at the top to describe the new source update file which will be called ACIMAP EPICAA.
`input EPICAA LCL * GSI EPIC AUTOATTACH`	
`fm A`	Change the filemode to the appropriate local service disk.
`file`	
`xedit ACIMAP MACRO ( CTL DMKSP`	Edit the macro source with update control to create a filetype EPICAA.
`find VARYR`	Copy in ACIMAP EPIC after the VARYR entry to be positioned in alpha order.
`down 1`	
`get = epic`	

`fm A`	Change the file mode to your local service disk. NOTE!: Be sure to use the appropriate control file.
`file`	

STEP 7

If you updated ACIMAP MACRO in the prior step, you will need to create a new DMKLCL MACLIB to include ACIMAP MACRO. Create or update the member list to include ACIMAP only once. Then build the maclib.

`DMKLCL EXEC`	Edit or create a member
`set stay off`	list for DMKLCL MACLIB.
`/ACIMAP/`	Search for an existing
`input &1 &2 ACIMAP MACRO`	entry for ACIMAP. Only
`fm A`	insert an entry for the
`file`	macro if it does not already exist. Change the file mode to your local service disk mode.
`VMFMAC DMKLCL DMKSP`	Generate the new maclib. Use the appropriate control file.

STEP 8

Update and assemble the CP command table to include the Autoattach commands VATTACH and VDETACH. For VM releases prior to VM release 5 at PUT 8806, the command table is in DMKCF*C* ASSEMBLE. Subsequent releases use DMKCF*B* ASSEMBLE.

`xedit DMKCFB AUXLCL`	Edit or create an AUX control file for DMKCFB. NOTE: If your VM release is prior to VM/SP 5 at PUT 8806, you need to update DMKCFC instead.
`top`	Insert a line at the top to describe the new source update file which will be called DMKCFB EPICAA.

```
input EPICAA LCL * GSI EPIC AUTOATTACH
```

`fm A`	Change the filemode to the appropriate local service disk.
`file`	NOTE: If your VM release is prior to VM/SP 5 at PUT 8806, you need to update DMKCFC instead.
`xedit DMKCFB ASSEMBLE ( CTL DMKSP`	Edit the command table,
`/VARY/`	search for VARY command
`get = vmsp5`	entry and insert the
`fm A`	entries for VATTACH and
`file`	VDETACH. Change the file- mode to the appropriate local service disk.
`VMFASM DMKCFB DMKSP`	Assemble the updated command table.

STEP 9

Update and assemble the Autoattach module, DMKTSI. The updates provided tailor the module for your VM release and generation type. Any that don't apply must be removed from the AUX file.

```
xedit DMKTSI AUXLCL
fm A
file
VMFASM DMKTSI DMKSP
```

Edit the AUX control file for DMKTSI and remove the lines for updates that do not apply to your VM release.
Assemble the module.

STEP 10

Update the CP load list. For standard VM/SP systems this file will be CPLOAD EXEC. There are different load lists depending on whether VM/HPO is being used, V=R is used and whether an AP or MP nucleus is being generated. This example refers to CPLOAD EXEC although you should substitute the load list used to generate your system.

```
xedit CPLOAD EXEC
/DMKCKP/
-/&1 &2/
input &1 &2 &3 DMKTSI

fm A

file
```

Edit the appropriate load list and locate the end of the pageable nucleus.

Insert a DMKTSI entry after the last pageable module but before DMKCKP.
Change the file mode to the appropriate local service disk.

STEP 11

This procedure can vary for different releases and can be accomplished using other service aids. Use the procedure defined by IBM for your installation.

Build the new CP nucleus.

If you have...	Use...
VM/SP 6	VMFBLD 5664167E CP
VM/SP 5	SPGEN NUCLEUS CP
VM/SP 3 or VM/SP 4	GENERATE CP NUCLEUS

```
RECEIVE nnnn CPNUC MAP A ( REPLACE
xedit CPNUC MAP
bottom
BACK
```

Receive the nucleus load map to your local service disk and check for any undefined references. Any found must be verified.

STEP 12

IPL and test the new system. After completing this step, test Autoattach using BIM-EPIC.

```
CP COMMANDS

VATTACH rdev * 181
```

From a class BG machine, VATTACH and VDETACH should be shown in the commands list.
Test the VATTACH command. Supply a real tape drive address.

`QUERY TAPES`	Query tapes to verify that the drive was really attached.
`QUERY VIRTUAL TAPES`	
`VDETACH 181`	Test the VDETACH command.
`QUERY TAPES`	Query tapes again to verify that the drive was really detached.
`QUERY VIRTUAL TAPES`	

4

Maintenance Procedures

This chapter describes procedures for routine maintenance of the DSN Catalog and Recorder File.

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Regular Maintenance

Introduction

The following tasks must be performed for proper BIM-EPIC functioning. The DAILY1 (or DAILY2) SAMPJOB procedure provides an example of how to perform these tasks. The DAILYn SAMPJOB procedures are supplied on the BIM-EPIC distribution tape.

Expired datasets can be scratched using the SCRATCH function of the TSIDUTL program.

Vault rotation can be performed using the TSIDVLT program.

WARNING!

The Recorder must be backed up, cleared, and restarted whenever the DSN Catalog is backed up. If the DSN Catalog and Recorder File are not backed up at the same time, data can be missing after you do an emergency recovery of the DSN Catalog. BACKUP should therefore be executed in the same job stream, in the step immediately following the BACKUP or FASTBU function of the TSIDUTL program.

Procedure

Step	Action
6	Back up the DSN Catalog daily using the FASTBU or BACKUP function of the TSIDUTL program.
7	Back up, reinitialize, and restart the Recorder File using the MAINT function of the TSIDRFS program.
8	Check DSN Catalog integrity regularly (preferably weekly) with the BACKUP (not FASTBU) function of the TSIDUTL program.
9	Whenever a large number of new datasets or tapes have been added to the DSN Catalog, re-index the DSN Catalog using the INDEX function of the TSIDUTL program.

DAILY1 Example

```
// JOB DAILY1
/*
/* PURPOSE: BIM-EPIC DAILY MAINTENANCE AND REPORTING USING VSE LABELS.
/*
/* PREREQ:    VSE/ESA 1.3
/*
/* THE FOLLOWING TSIDMNT CONTROL STATEMENTS WILL CREATE THE REQUIRED
/* BIM-EPIC DATASET DEFINITIONS FOR THIS EXAMPLE.  CODE ADDITIONAL
/* OPERANDS AS NEEDED.
/*
/*    CAT 'EPIC.CAT.BACKUP'
/*    CAT 'EPIC.REC.BACKUP'
/*    CAT 'EPIC.REC.HISTORY'
/*    CAT 'EPIC.UTL.WORK' POL=POOLNM EXT=N WRK=YES
/*    CAT 'EPIC.ACL.EJECT' POL=POOLNM EXT=N
/*    CAT 'EPIC.ARP.XREF' POL=POOLNM EXT=N
/*    CAT 'EPIC.BRP.XREF.WORK' POL=POOLNM EXT=N WRK=YES
/*    CAT '$$$.SORTWK1' POL=POOLNM EXT=N WRK=YES
```

```
/*
* STEP DAILY1.000 TSIDUTL
/*
/* BACKUP THE BIM-EPIC CATALOG TO TAPE AND VALIDATE CATALOG INTEGRITY.
/* THE OUTPUT MAY SPAN MORE THAN ONE OUTPUT TAPE VOLUME AND WILL
/* DEFAULT TO UNLOAD WHEN THEN THE BACKUP TAPE IS CLOSED.
/*
// TLBL BACKUP,'EPIC.CAT.BACKUP'
// EXEC TSIDUTL
BACKUP
/*
* STEP DAILY1.005 TSIDRFS
/*
/* PERFORM MAINTENANCE ON THE EPIC RECORDER FILE.  THIS MAINTENANCE
/* COMBINES THE END, BACKUP, CLEAR, AND START COMMANDS INTO A
/* SINGLE COMMAND TO ENSURE THAT ALL THESE REQUIRED FUNCTIONS ARE
/* ALWAYS PERFORMED AND IN THE CORRECT ORDER.  OUTPUT MAY SPAN MORE
/* THAN ONE OUTPUT TAPE VOLUME AND WILL DEFAULT TO REWIND WHEN THE
/* BACKUP TAPE IS CLOSED.
/*
// TLBL RFBKUP,'EPIC.REC.BACKUP'
// EXEC TSIDRFS
MAINT
/*
* STEP DAILY1.010 TSIDUTL
/*
/* DO DAILY SCRATCH FUNCTION AND PRODUCE TYPICAL AND RECOMMENDED
/* CATALOG LISTINGS.
/*
// DLBL WORK,'EPIC.UTL.WORK(D)'
// EXTENT SYS002,POOLNM,,,1,100
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS001
// EXEC TSIDUTL
SCRATCH
DSPLY ALL,SEQ=DSN
DSPLY ALL,SEQ=SERIAL
/*
* STEP DAILY1.015 TSIVON
/*
/* REFRESH QDAS TABLES.  REMOVE THIS STEP IF NOT RUNNING QDAS.
/*
// EXEC TSIVON
/*
* STEP DAILY1.020 TSIDVLT
/*
/* DO VAULT MOVEMENT.  THE LABEL FOR ACLFIL1 IS REQUIRED ONLY
/* IF OPTION ACLMEM=YES (SUPPORT FOR THE MEMOREX AUTOMATIC
/* TAPE LIBRARY) HAS BEEN SPECIFIED FOR YOUR BIM-EPIC SYSTEM.
/*
// DLBL ACLFIL1,'EPIC.ACL.EJECT'
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS001
// EXEC TSIDVLT
MOVESER
/*
* STEP DAILY1.025 TSIDUTL
/*
/* EJECT ACL VOLUMES FLAGGED FOR VAULT MOVEMENT.  REMOVE THIS
/* JOB STEP IF 'OPTION ACLMEM=YES' HAS NOT BEEN SPECIFIED FOR YOUR
/* BIM-EPIC SYSTEM.
/*
// DLBL ACLFIL1,'EPIC.ACL.EJECT(D)'
// EXEC TSIDUTL
```

```
ACLEJECT
/*
* STEP DAILY1.030 TSIDSRT
/*
/* COMBINE CURRENT RECORDER FILE WITH PRIOR RECORDER FILE HISTORY
/* GIVING AN UPDATED RECORDER FILE HISTORY THAT CAN BE USED FOR
/* ANY PURPOSE.  THIS EXAMPLE USES SORT TO COMBINE THE RECORDER
/* FILES INTO A COMBINED RECORDER FILE HISTORY.  HOWEVER, ANY
/* PREFERRED MECHANISM (INCLUDING TSIDDTD) CAN BE USED TO MAINTAIN
/* THE HISTORY FILE USING ANY DESIRED FREQUENCY.
/*
// TLBL SORTIN1,'EPIC.REC.BACKUP'
// TLBL SORTIN2,'EPIC.REC.HISTORY',,,,,,2
// TLBL SORTOUT,'EPIC.REC.HISTORY',,,,,,2
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS004
// EXEC SORT
 SORT FIELDS=(25,2,A,21,6,A,17,4,A),FILES=2,FORMAT=BI,WORK=1
 RECORD TYPE=F,LENGTH=338
 INPFIL BLKSIZE=5746
 OUTFIL BLKSIZE=5746
 END
/*
* STEP DAILY1.035 TSIDARP
/*
/* PRODUCE THE ACTIVITY LOG REPORT SHOWING OPEN AND CLOSE ACTIVITY
/* FOR EPIC-CONTROLLED DATASETS, SORTED BY SYSTEM ID, DATE, TIME,
/* AND JOB NAME.  REMOVE THIS STEP IF THIS REPORT AND THOSE
/* GENERATED BY THE FOLLOWING TSIDBRP PROGRAM ARE NOT DESIRED.
/*
// ASSGN SYS003,SYSIPT
// ASSGN SYS004,SYSLST
// DLBL SYS002,'EPIC.ARP.XREF'
// TLBL SYS005,'EPIC.REC.BACKUP'
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS001
// EXEC TSIDARP
/*
* STEP DAILY1.040 TSIDBRP
/*
/* PRODUCE THE DSN/JOB CROSS-REFERENCE AND ACCEPTED TAPES REPORTS.
/* REMOVE THIS STEP IF THESE REPORTS ARE NOT DESIRED.
/*
// ASSGN SYS004,SYSLST
// DLBL SYS002,'EPIC.ARP.XREF(D)'
// DLBL SYS005,'EPIC.BRP.XREF.WORK(D)'
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS001
// EXEC TSIDBRP
/*
* STEP DAILY1.045 TSIDJAC
/*
/* PRODUCE THE JOB TIME ACTIVITY REPORT SHOWING USAGE STATISTICS
/* BY JOB.  REMOVE THIS STEP IF THIS REPORT IS NOT DESIRED.
/*
// ASSGN SYS004,SYSLST
// TLBL SYS005,'EPIC.REC.BACKUP'
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS001
// EXEC TSIDJAC
/*
* STEP DAILY1.050 TSIDTAC
/*
/* PRODUCE THE DATE TIME ACTIVITY REPORT SHOWING USAGE STATISTICS
```

```
/* BY PARTITION.  REMOVE THIS STEP IF THIS REPORT IS NOT DESIRED.
/*
// ASSGN SYS004,SYSLST
// TLBL SYS005,'EPIC.REC.BACKUP'
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS001
// EXEC TSIDTAC
/*
* STEP DAILY1.055 TSIDJLD
/*
/* MAINTAIN THE EPIC JOB ACCOUNTING DATABASE.  REMOVE THIS STEP IF
/* THIS FILE IS NOT DESIRED.  A SAMPLE IDCAMS DEFINITION FOR THE
/* TSIJACB.JOB.ACCOUNT VSAM KSDS FILE IS FOUND IN TSIJADB.SAMPJOB.
/* CORRECT OR REMOVE CAT= VALUE AS APPROPRIATE.
/*
// ASSGN SYS003,SYSIPT
// ASSGN SYS004,SYSLST
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS001
// TLBL SYS005,'EPIC.REC.BACKUP',,,,,,2
// DLBL TSIJADB,'TSIJADB.JOB.ACCOUNT',,VSAM,CAT=USRCAT,BUFSP=32768
// EXEC TSIDJLD
ADD
/*
/&
```

Moving and Changing the Size of the DSN Catalog

Introduction

The CATMOVE1 (or CATMOVE2) SAMPJOB procedure provides an example of the procedure you should use if you need to move or change the size of your DSN Catalog. If your DSN Catalog was accidentally destroyed, use the procedure for emergency recovery. The CATMOVEn SAMPJOB procedures are supplied on the BIM-EPIC distribution tape.

Procedure

Step	Action
1	Deactivate BIM-EPIC with TSIDOFF in all machines which share the catalog *except* the machine you are using to move the DSN Catalog.
2	Back up the DSN Catalog with the BACKUP function of the TSIDUTL program.
3	Perform Recorder File maintenance and backup using the TSIDRFS program.
4	Turn BIM-EPIC off using TSIDOFF.
5	Formate the new DSN Catalog using the TSIDCDK program.
6	If moving to a new volume, update Standard Labels in all machines that share this DSN Catalog.
7	Activate BIM-EPIC in the machine you are using to move the DSN Catalog.
8	Restore the DSN Catalog using the backup created in Step 2 above.
9	Reactivate BIM-EPIC in all machines that share this DSN Catalog.

Moving and Changing The Size of the Recorder File

Introduction

The RECMOVE1 (or RECMOVE2) SAMPJOB procedure provides an example of the procedure you should use if you need to move or change the size of your Recorder File. The RECMOVEn SAMPJOB procedures are supplied on the BIM-EPIC distribution tape.

Procedure

Step	Action
1	Deactivate BIM-EPIC with TSIDOFF in all machines which share the Recorder File EXCEPT the machine you are using to move the Recorder File.
2	Backup the catalog with the BACKUP function of the TSIDUTL program.
3	Perform Recorder File maintenance and backup using the TSIDRFS program.
4	Format the new Recorder File using the TSIDCDK program.
5	If moving to a new volume, update Standard Labels in all machines sharing this Recorder File.
6	Activate BIM-EPIC in a machine you are using to move the Recorder File.
7	Reactivate BIM-EPIC in all machines that share this Recorder File.

Emergency Recovery of the DSN Catalog

Introduction

Use the procedure below to recreate the DSN Catalog after it has been accidentally destroyed.

The RECOVER1 (or RECOVER2) SAMPJOB procedure contains all of the steps necessary to recover the DSN Catalog. The RECOVERn SAMPJOB procedures are supplied on the BIM-EPIC distribution tape.

Procedure

Step	Action
1	Using TSIDOFF, deactivate BIM-EPIC in all machines which share the DSN Catalog to be recovered.
2	Deactivate all Recorder systems.
3	Reactivate BIM-EPIC in the VSE machine being used to perform the recovery. Use the EPICON procedure normally used to bring up the machine. Ensure that no other processing takes place except the recovery.
4	Restore the DSN Catalog in the reactivated machine using the RESTORE function of TSIDUTL.
5	Back up the Recorder File(s) using the MAINT function of TSIDRFS. Use tapes that are uncontrolled (not listed in the DSN Catalog).
6	Perform forward recovery of the BIM-EPIC DSN Catalog using the specified datasets. To recover the DSN Catalog, set the UPSI switches to indicate the which Recorder Files to use as input. *Do not execute TSIDBLD from the VSE operator console.*
7	Close the backup dataset with the CLOSE function of Online Manager or TSIDMNT.
8	Back up the recovered DSN Catalog using the BACKUP function of TSIDUTL.
9	Reactivate BIM-EPIC in all machines which share the DSN Catalog.
10	Rerun TSIDVLT if it has been run since the last DSN Catalog backup was performed. TSIDVLT updates are not reflected after an emergency recovery.

UPSI Settings

The USPI switches are set as follows:

Switch	Description
UPSI 1xx	BIM-EPIC Recorder File (SYS005 = VSEBKUP)
UPSI x1x	CA-EPIC/CMS Recorder File (SYS006 = CMSBKUP)

If the DSN Catalog is used by a single VSE system, the following is used:

```
// UPSI  100    (VSE ONLY)
```

```
// TLBL  VSEBKUP
```

If the DSN Catalog is shared between VSE and CMS, the following is used:

```
// UPSI  110    (VSE & CMS)
// TLBL  VSEBKUP
// TLBL  CMSBKUP
```

When sharing the DSN Catalog among mixed releases of BIM-EPIC, any BIM-EPIC Recorder File prior to Release 4.1 must be treated as a CMS Recorder File, with the appropriate UPSI switches and TLBL included in the JCL.

RECOVER1 Example

```
// JOB RECOVER1
/*
/* PURPOSE:   RECOVER THE BIM-EPIC CATALOG USING VSE LABELS.
/*
/* PREREQ:    VSE/ESA 1.3
/*
/* THE FOLLOWING TSIDMNT CONTROL STATEMENTS WILL CREATE THE REQUIRED
/* BIM-EPIC DATASET DEFINITIONS FOR THIS EXAMPLE.  CODE ADDITIONAL
/* OPERANDS AS NEEDED.
/*
/*    CAT 'EPIC.CAT.BACKUP'
/*    CAT 'EPIC.VSE.BACKUP'
/*    CAT 'COMB.VSE.BACKUP'
/*    CAT 'EPIC.CMS.BACKUP'
/*    CAT 'COMB.CMS.BACKUP'
/*    CAT '$$$.SORTWK1' POL=POOLNM EXT=N WRK=YES
/*
/* BIM-EPIC MUST BE TURNED ON IN YOUR SYSTEM.  IF UNABLE TO INITIALIZE
/* BIM-EPIC BECAUSE NO CATALOG CURRENTLY EXISTS, REFER TO THE BIM-EPIC
/* INSTALLATION GUIDE FOR INITIALIZING A NEW CATALOG.  DO NOT
/* INITIALIZE THE RECORDER FILE. THE DATA CURRENTLY RESIDING IN THAT
/* FILE IS CRITICAL TO THIS RECOVERY PROCEDURE.
/*
* STEP RECOVER1.000 PAUSE
/*
/* TURN BIM-EPIC OFF IN ALL OTHER SYSTEMS WHICH SHARE THIS BIM-EPIC
/* CATALOG.  ONCE THIS STEP IS COMPLETED, THIS WILL BE THE ONLY
/* ACTIVE SYSTEM THAT HAS ACCESS TO THIS BIM-EPIC CATALOG.
/*
// PAUSE TURN BIM-EPIC OFF ON ALL OTHER MACHINES SHARING THIS CATALOG
/*
* STEP RECOVER1.005 TSIDDEB
/*
/* ASSURE THAT START-TRACK-1 (OR START-BLOCK-1) DATASETS WILL BE
/* SUPPORTED BY YOUR BIM-EPIC SYSTEM.  SINCE THE TSIDUTL RESTORE
/* FUNCTION WILL AUTOMATICALLY CLEAR THE THE BIM-EPIC CATALOG OF ALL
/* ENTRIES IN PREPARATION OF THE ACTUAL CATALOG RESTORE, NO DATASET
/* DEFINITIONS EXIST WHEN THE WORK AND SORTWK1 FILES ARE OPENED.
/* THEREFORE, THESE TWO FILES ARE IDENTIFIED USING TEMPORARY STRTK=1
/* DEFINITIONS AND BOTH WILL BE AUTOMATICALY DELETED WHEN THIS JOB
/* STREAM COMPLETES.
/*
/* ALSO, ENSURE A RESPONSE OF 'ACCEPT' IS ALLOWED IF MESSAGE
/* 'EP011 UNASSIGNED INPUT BACKUP ...' OCCURS WHEN ATTEMPTING THE
/* TSIDUTL FUNCTION.
/*
// EXEC TSIDDEB
OPTION STRTK=1,ACCEPT=YES
/*
```

```
* STEP RECOVER1.010 TSIDUTL
/*
/* RESTORE THE BIM-EPIC CATALOG. IF THE DATASET NAME REFERENCED IN THE
/* 'BACKUP' LABEL DOES NOT EXIST IN THE BIM-EPIC CATALOG,
/* MESSAGE 'EP011 UNASSIGNED INPUT BACKUP ...' MAY APPEAR. THIS SHOULD
/* BE ANSWERED WITH THE CUU OF THE TAPE DRIVE WHERE THE CORRECT
/* BIM-EPIC CATALOG BACKUP HAS BEEN MOUNTED.
/* IF THE MESSAGE 'EP001 MOUNT TAPE...' IS ISSUED CALLING OTHER THAN
/* THE VOLSER OF THE DESIRED BIM-EPIC CATALOG BACKUP, RESPOND WITH THE
/* CUU OF THE PHYSICAL TAPE DRIVE WHERE THAT CORRECT BACKUP IS MOUNTED
/* AND THEN RESPOND 'ACCEPT' TO MESSAGE 'EP009 INCORRECT
/* DATASET/VERSION ...' WHICH MAY ALSO OCCUR.
/*
// TLBL BACKUP,'EPIC.CAT.BACKUP',,,,,,2
// DLBL WORK,'EPIC.UTL.WORK(D)'
// EXTENT SYS002,POOLNM,,,1,15          <======= FIX ME!
// DLBL SORTWK1,'===.SORTWK1(X)'
// EXTENT SYS001,POOLNM,,,1,100         <======= FIX ME!
// EXEC TSIDUTL
RESTORE
/*
* STEP RECOVER1.015 TSIDMNT
/*
/* CHANGE STATUS OF THE BIM-EPIC.CAT.BACKUP TO CLOSED.
/* THIS STEP IS NEEDED SINCE THE STATUS OF THIS VERSION
/* WAS OPEN WHILE THE CATALOG WAS BEING COPIED TO TAPE.
/*
// EXEC TSIDMNT
CLOSE 'EPIC.CAT.BACKUP'
/*
* STEP RECOVER1.020 TSIDRFS
/*
/* PERFORM MAINTENANCE ON THE BIM-EPIC RECORDER FILE.
/* THIS MAINTENANCE COMBINES THE 'END', 'BACKUP', 'CLEAR',
/* AND 'START' COMMANDS INTO A SINGLE COMMAND WHICH ASSURES
/* THAT ALL THESE REQUIRED FUNCTIONS ARE ALWAYS PERFORMED
/* AND IN THE CORRECT ORDER.  THE OUTPUT MAY SPAN MORE
/* THAN ONE OUTPUT TAPE VOLUME.
/*
// TLBL RFBKUP,'EPIC.VSE.BACKUP'
// EXEC TSIDRFS
MAINT
/*
* STEP RECOVER1.025 TSIDSRT
/*
/* IF MORE THAN ONE BIM-EPIC RECORDER FILE BACKUP TAPE IS REQUIRED FOR
/* INPUT TO THIS RECOVERY PROCEDURE, USE JCL SIMILAR TO THIS TSIDSRT TO
/* COMBINE THEM INTO A SINGLE DATASET AS REQUIRED BY THE TSIDBLD
/* PROGRAM.  IF ONLY THE 'EPIC.REC.BACKUP' DATASET VERSION CREATED ABOVE
/* IS REQUIRED AS INPUT TO THIS RECOVERY PROCEDURE, SKIP THIS STEP.
/*
// TLBL SORTIN1,'EPIC.VSE.BACKUP',,,,,1,2
// TLBL SORTIN2,'EPIC.VSE.BACKUP',,,,,2,2
// TLBL SORTOUT,'COMB.VSE.BACKUP'
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS001
// EXEC TSIDSRT
 SORT FIELDS=(29,5,CH,A,17,4,CH,A),WORK=1,FILES=2
 RECORD TYPE=F,LENGTH=338
 INPFIL BLKSIZE=5746
 OUTFIL BLKSIZE=5746
 OPTION PRINT=ALL,ROUTE=LST
 END
* STEP RECOVER1.030 CA-EPIC/CMS
```

```
/*
/* IF CA-EPIC/CMS IS UTILIZED, ACCOMPLISH THE EPIC/CMS RECORDER
/* COMMAND TO PERFORM THE 'MAINT' FUNCTION WHICH INCLUDES CREATING
/* A CA-EPIC/CMS RECORDER FILE BACKUP TO TAPE.  THIS SAMPLE JOB
/* ASSUMES THE DATASET NAME FOR THIS CA-EPIC/CMS RECORDER FILE
/* BACKUP IS 'EPIC.CMS.BACKUP'.
/*
// PAUSE ACCOMPLISH CA-EPIC/CMS RECORDER FILE BACKUP, IF APPROPRIATE.
/*
* STEP RECOVER1.035 TSIDSRT
/*
/* IF MORE THAN ONE BIM-EPIC RECORDER FILE BACKUP TAPE IS REQUIRED FOR
/* INPUT TO THIS RECOVERY PROCEDURE, USE JCL SIMILAR TO THIS TSIDSRT
/* TO COMBINE THEM INTO A SINGLE DATASET AS REQUIRED BY THE TSIDBLD
/* PROGRAM.  IF ONLY THE 'EPIC.CMS.BACKUP' DATASET VERSION CREATED
/* ABOVE IS REQUIRED AS INPUT TO THIS RECOVERY PROCEDURE, OR
/* CA-EPIC/CMS IS NOT UTILIZED, SKIP THIS STEP.
/*
// TLBL SORTIN1,'EPIC.CMS.BACKUP',,,,,1,2
// TLBL SORTIN2,'EPIC.CMS.BACKUP',,,,,2,2
// TLBL SORTOUT,'COMB.CMS.BACKUP'
// DLBL SORTWK1,'$$$.SORTWK1'
// EXTENT SYS004
// EXEC TSIDSRT
 SORT FIELDS=(29,5,CH,A,17,4,CH,A),WORK=1,FILES=2
 RECORD TYPE=F,LENGTH=241
 INPFIL BLKSIZE=2410
 OUTFIL BLKSIZE=2410
 OPTION PRINT=ALL,ROUTE=LST
 END
* STEP RECOVER1.040 TSIDBLD
/*
/* ACCOMPLISH THE BIM-EPIC CATALOG RECOVERY PROGRAM.  THIS SAMPLE JCL
/* NEEDS TO BE MODIFIED AS FOLLOWS:
/*
/*      // UPSI 10   USE IF ONLY BIM-EPIC IS UTILIZED
/*      // UPSI 11   USE IF BOTH BIM-EPIC AND CA-EPIC/CMS ARE UTILIZED
/*
/* FOR // UPSI 10 ONLY, REMOVE THE LABEL FOR CMSBKUP.
/*
/* FOR BOTH // UPSI 10 AND // UPSI 11, CORRECT THE FILE-ID FOR VSEBKUP
/* IF MORE THAN ONE BIM-EPIC RECORDER FILE WAS COMBINED ABOVE.
/*
/* FOR // UPSI 11 ONLY, CORRECT THE FILE-ID FOR CMSBKUP IF MORE THAN
/* ONE CA-EPIC/CMS RECORDER FILE WAS COMBINED ABOVE.
/*
// UPSI ??
// TLBL VSEBKUP,'EPIC.VSE.BACKUP'
// TLBL CMSBKUP,'EPIC.CMS.BACKUP'
// EXEC TSIDBLD
/*
// UPSI 00
/*
* STEP RECOVER1.045 TSIDUTL
/*
/* BACKUP THE NEWLY RECOVERED BIM-EPIC CATALOG TO TAPE.
/*
// TLBL BACKUP,'EPIC.CAT.BACKUP'
// EXEC TSIDUTL
BACKUP
/*
* STEP RECOVER1.050 PAUSE
/*
/* THE RECOVERY PROCEDURE HAS BEEN COMPLETED.  BE SURE TO CHECK EACH
```

```
/* TSIDBLD PRINTED PAGE FOR CORRECTNESS.
/*
// PAUSE RECOVERY COMPLETE - BE SURE TO REVIEW OUTPUT.
/*
/&
```

5

Activating and Deactivating BIM-EPIC

This chapter describes programs that activate, configure, and deactivate BIM-EPIC system features. If you have not yet customized the EPICON procedure, go to 2-94 in this manual before continuing with this chapter.

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Activating and Deactivating BIM-EPIC

Turning BIM-EPIC On (TSIDON)

Description

BIM-EPIC is activated and configured by using the TSIDON program.

Once BIM-EPIC is activated, it becomes active in each partition once the first dataset is opened. Once activated, BIM-EPIC remains active until VSE is IPLed or until it is deactivated. You can turn BIM-EPIC off and back on in a partition by using TSIDDEB.

TSIDON is usually executed from the EPICON procedure. It can also be executed from the operator console or from JCL. When you execute TSIDON from a procedure, the procedure must be cataloged with DATA=YES.

Processing Note

We recommend that you execute TSIDON in BG during an IPL, and before you activate any other partition. Execute TSIDON after activating most other software. For the exceptions, see 2-8 in this manual.

Executing from the Console

If you are executing TSIDON from the operator console, BIM-EPIC issues console messages to request control statements. You do not have to type OPTION in front of the configuration options (for example, ACCEPT=NO). You can enter as many options as you wish, separating the options with commas. When you are finished, press ENTER.

Configuration options remain in effect only as long as BIM-EPIC remains active. We recommend that you submit configuration options from the EPICON procedure (not from the operator console) to ensure a standard configuration every time BIM-EPIC is activated.

For more information, see the OPTION control statements and Configuration Option Descriptions.

JCL Requirements

```
// EXEC TSIDON
OPTION control statements
/*
```

Dataset Requirements

IJSYSDS defines the DSN Catalog. You can use a different DTF name if you specify it in the DSNAME configuration option. It can be defined with standard assignments and labels.

Control Statements

TSIDON control statements are required.

OPTION control statements are used to define BIM-EPIC configuration options. Parameters for these statements can be specified in any order.

You can specify multiple parameters on any control statement. Separate parameters from each other with a comma. Only columns 1 through 72 are valid. Parameters beginning in column 73 and beyond are ignored.

Control statements cannot be continued. However, you can use as many statements as you need.

To specify a comment, begin the statement with "/*" in column 2 or beyond. End the statement with "*/".

OPTION Control Statement

Description

OPTION control statements are used to supply BIM-EPIC configuration options. OPTION statements begin with the word OPTION, followed by a space and one or more option expressions. One OPTION statement can define multiple options, but OPTION statements cannot be continued. For a full description of each configuration option, see the next section.

Syntax

`OPTION option=value[,option=value...]`

Parameters

In the following table, Scope indicates whether the option applies to Tape only, to Disk only, or to the System as a whole. BIM-EPIC uses the default when no value is supplied using an OPTION statement.

option	Scope	*value*	Default
ACCEPT	Tape	YES or NO	YES
ACLAUTI	Tape	YES or NO	NO
ACLIBM	Tape	YES or NO	NO
ACLLIB	Tape	lib.sublib	None
ACLLVLOO	Tape	YES or NO	NO
ACLMEM	Tape	YES or NO	NO
ACLOPT	Tape	YES or NO	NO
ACLRECS	Tape	1 to 32767	100
ACLSRVRI	Tape	CMS server ID for IBM ACL	None
ACLSRVRM	Tape	CMS server ID for Memorex ACL	None
ACLSRVRO	Tape	Server ID for BSI's OPTI-TAPE	None
ACLSRVRS	Tape	CMS server ID for STK ACL	None
ACLSTK	Tape	YES or NO	NO
ACLTIME	Tape	1 to 32767	180
ALLMALL	Disk	YES or NO	NO
ALLMSG	Disk	YES or NO	YES
ALTMSGS	System	YES or NO	NO
AUTOATT	Tape	YES or NO	NO
AUTOCAT	System (tape,disk)	YES or NO or *sysparm* YES or NO or *sysparm*	(NO,NO)

option	Scope	*value*	Default
AUTOLOG	Tape	YES or NO or *sysparm*	NO
AUTOSTP	Tape	YES or NO	NO
AUTSTPN	Tape	1 to 999	5
AUTSTPNO	Tape	0 to 999	AUTSTPN value
AUTSTPT	Tape	1 to 999	10
AUTSTPTO	Tape	0 to 999	AUTSTPT value
BYPEXT	Disk	YES or NO	NO
CANMSG	System	YES or NO	NO
CATRT1	Disk	YES or NO	NO
CKDFACT	Disk	0 to 32767	30
CMSTAPE	System	YES or NO	NO
CNTRL	Tape	YES or NO or CANCEL	NO
CPUID[S]	System	A-Z, 0-9	Last digit of CPU serial number
CWDSPOL	Disk	6 characters	None
CYCL	System	0 to 999	3
DDERR	System	CANCEL|IGNORE|OPCORR	IGNORE
DDGEN	System	YES or NO	NO
DEBUG	System	YES or NO	NO
DEFEXT	Disk	0-999999	0 (zero)
DEFPOL	Disk	6 characters	None
DEFTPL	Tape	NO or 1 character	NO
DEFWPOL	Disk	6 characters	DEFPOL value
DISKALL	Disk	YES or NO	YES
DSKLUB	Disk	YES or NO or 1-255	YES (100)
DSKRET	Disk	1 to 999	7
DSNAME	System	1 to 7 characters	IJSYSDS
DSNWARN	System	1 to 999	200
DSNWMSG	System	1 to 999	10
EPICOFF	System	2 characters	None
ERDFILE	Tape	1 to 7 characters	None
EURODAT	System	YES or NO	NO

option	Scope	*value*	Default
FBAFACT	Disk	0 to 32767	0 (zero)
FRAG	Disk	YES or NO	NO
GDI	System	YES or NO	YES
GDIUR	System	YES or NO	YES
JCLAC	System	YES or NO	YES
JCLLANG	System	YES or NO	YES
JCLOPT	Tape	YES or NO	NO
JCLOVRDE	System	YES or NO	NO
JOBACCT	System	YES or NO	YES
JQNAME	System	1 to 7 characters	None
JQWARN	System	0 to 999	0 (zero)
JQWMSG	System	0 to 999	0 (zero)
MINDEX	System	YES or NO	NO
MINRET	Disk	1 to 999	7
MODE	Tape	Valid density code	D0
MSG088	Tape	YES or NO	NO
MULTCPU	System	YES or NO	NO
NCATDSK	Disk	YES or NO	NO
NOGVIS	System	CANCEL or IGNORE	CANCEL
ONLREWCD	System	RUN or REW	RUN
PASSWD	System	1 to 8 characters	None
PREFIX	System	2 characters	EP
PURBYP	Disk	YES or NO	NO
RECORD	System	YES or NO	YES
RECSHR	System	YES or NO	NO
RERUN	Tape	YES or NO	YES
RETEN	System	0 to 999	7
RMNTPRT	Tape	YES or NO	NO
SHARE	Tape	YES or NO	NO
SLASIZE	System	1 to 32767	300
STRTRK	Disk	NO or 1 to 32767	1
TAPCUU	Tape	3 characters	F00

option	Scope	*value*	Default
TAPE	Tape	YES or NO	YES
TAPLUB	Tape	YES or NO or 001-255	YES (010)
TAPPOL	Tape	6 characters	None
TPAMODE	Tape	Valid TPA Mode	None
TSTJOB	System	1 to 8 characters	None
UNCDSK	Disk	YES or NO	NO
UNCTAP	Tape	YES or NO	NO
UNCTL	Tape	YES or NO	NO
UNLABEL	Tape	YES or NO	YES
UNLOAD	Tape	YES or NO	NO
VGSFTAPE	Tape	YES or NO	YES
VM	System	YES or NO or SVC no.	NO
VSAM	Disk	YES or NO	NO

Configuration Option Descriptions

ACCEPT

Determines whether ACCEPT is a valid response to EP009 INCORRECT DATASET/VERSION. If ACCEPT=YES (the default), ACCEPT is a valid response to EP009, and BIM-EPIC will accept the mounted tape regardless of tape contents. Under certain conditions, EPS067 is required for the EP009 message to be issued (see 5-38).

If ACCEPT=NO, ACCEPT is not a valid response, so you must mount the correct tape. ACCEPT=NO is required in order to set EPS032=YES.

Related Special Options: EPS032, EPS040, EPS067

Related Messages: EP009, EP034

ACLAUTI

Determines whether uninitialized tapes that reside in an IBM ACL are automatically initialized during an ACL SYNC operation. If ACLAUTI=YES, any uninitialized tape found in an IBM ACL during an ACL SYNC operation will be initialized with VOL and HDR records and placed into the BIM-EPIC DSN. The volume serial number is set to the tape's barcode serial number. If tape pools are used, the tape's barcode serial number must be within a pool definition.

If ACLAUTI=NO (the default), tapes are not initialized during an ACL SYNC operation.

Related Configuration Options: ACLIBM

ACLIBM

Determines whether the IBM ACL Tape Library Dataserver is supported. If ACLIBM=NO (the default), the IBM ACL is not supported.

If ACLIBM=YES, the IBM ACL is supported. MSG088=YES is also required.

Related Configuration Options: ACLAUTI, ACLLIB, ACLRECS, ACLSRVRI, ACLTIME, ERDFILE, MSG088, VM

ACLLIB

ACLLIB=*lib.sublib* specifies the VSE Library and Sublibrary to be used to manage the cartridge statuses and inventory of ACL units.

The sublibrary has members used by the BIM-EPIC Dispatcher to process ACL-related scratch, retain, eject, add, purge, and other requests made as a result of TSIDMNT, TSIDUTL and TSIDVLT processing against the BIM-EPIC DSN Catalog.

For Memorex and STK ACL's, *lib.sublib* can be any valid VSE library and sublibrary. Naming requirements for IBM ACL's are:

- If the IBM Library Control Device Driver (LCDD) for VSE/ESA is used as the ACL manager, *sublib* must be the same name as that used in the LUNAME parameter to identify the 3494 in the LCDD configuration.

- If the IBM VSE Guest Server (VGS) is being used as the ACL manager (in a VSE Guest environment), *sublib* can be any name. For consistency and ease of cross-reference, we recommend using the server name specified in the LIBRCMS SRVNAMES member entry for the VSE Guest. This member is on the VGINVHLP A-disk.

In all cases, we recommend that the sublibrary be used for ACL support only. In BIM-EPIC documentation, the sublibrary is called the VSE ACL Inventory Management Library.

Related Configuration Options: ACLIBM

ACLLVLOO

In an IBM multiple-ACL environment where the ACL Leveling feature is used, determines whether ACL Leveling is used for input and output, or for output only. This option is only meaningful in a multiple ACL environment, and then only if at least two ACL's have been defined as *Participates in ACL Leveling* as described in *Defining the BIM-EPIC Resource Dataset (ERD)* . The leveling process is described in *ACL Leveling*.

If ACLLVLOO=NO (the default), ACL cuu's being used for input and output operations are included in the ACL Leveling process.

If ACLLVLOO=YES, only ACL cuu's being used for output operations are included in the ACL Leveling process.

Related Configuration Options: ACLIBM

ACLMEM

Determines whether the Memorex Automatic Tape Library (ATL) is supported. If NO (the default), the MEMOREX ATL is not supported.

If ACLMEM=YES, the Memorex ATL is supported. MSG088=YES is also required.

Related Configuration Options: ACLLIB, ACLRECS, ACLSRVRM, ACLTIME, ERDFILE, MSG088, VM

ACLOPT

Determines whether BSI's OPTI-TAPE is supported. If NO (the default), OPTI-TAPE is not supported.

If ACLOPT=YES, OPTI-TAPE is supported. MSG088=YES is also required.

Related Configuration Options: ACLSRVRO, ERDFILE, MSG088, VM

ACLRECS

Specifies the number of records written to VSE ACL Inventory Management Library before submission to an ACL for processing. The default is 100. Records are written to the library from executions of TSIDMNT, TSIDVLT and TSIDUTL.

Related Configuration Options: ACLTIME

ACLSRVRI

If IBM ACLs are supported using the IBM VSE Guest Server (VGS), ACLSRVRI specifies the CMS Logon name of the VGS machine. *If IBM ACLs are being supported using the IBM Library Control Device Driver for VSE/ESA (LCDD), do not use the ACLSRVRI option.*

Related Configuration Options: ACLIBM, VM

ACLSRVRM

If Memorex ACLs are supported, ACLSRVRM specifies the CMS Logon name of the Memorex Library Management Software (LMS) server. Related Configuration Options: ACLMEM, VM

ACLSRVRO

If BSI's OPTI-TAPE is supported, ACLSRVRO specifies the server name. The value must be OPTITAPE

Related Configuration Options: ACLOPT

ACLSRVRS

If STK ACLs are supported, ACLSRVRS specifies the STK Host Software Component (HSC) server.

Related Configuration Options: ACLSTK, VM

ACLSTK

Determines whether the STK ACL is supported. If NO (the default), the STK ACL is not supported.

If ACLSTK=YES, the STK ACL is supported. MSG088=YES is also required.

Related Configuration Options: ACLLIB, ACLRECS, ACLSRVRS, ACLTIME, ERDFILE, MSG088, VM

ACLTIME

Specifies the number of seconds that can elapse since the last record was written to the VSE ACL Inventory Management Library, before records are submitted to an ACL for processing. The default is 180. Records are written to the library from executions of TSIDMNT, TSIDVLT and TSIDUTL.

Related Configuration Options: ACLRECS

ALLMALL

Determines whether all disk messages are issued for every file.

If ALLMALL=YES,all disk messages are issued.

If ALLMALL=NO (the default), disk messages are not issued. ALLMALL=NO can be overridden for a single disk dataset by using DLBL option 'M' or DD OPTION=ALLMSGS, either of which cause all disk messages for the dataset to be issued for a single job step.

Related Configuration Options: DISKALL

Related Special Options: EPS044

Related Messages: EP039, EP051, EP052, EP053, EP090

ALLMSG

Determines whether the disk allocation message EP039 ALLOCATED is issued for output disk files.

If ALLMSG=YES (the default), EP039 is enabled regardless of any other settings.

If ALLMSG=NO, EP039 is disabled, and EP052 is also disabled unless special option EPS044=YES has been specified. You can override ALLMSG=NO for a specific file by using the DLBL 'M' option or DD OPTION=ALLMSGS.

Related Configuration Options: DISKALL

Related Special Options: EPS044

Related Messages: EP039, EP052

ALTMSGS

If ALTMSGS=YES, extended information (including the full dataset name and generation number, if applicable) for the related messages is displayed typically occupying two display lines.

If ALTMSGS=NO (the default), abbreviated information for the related messages is displayed typically occupying one display line.

Related Messages: EP005, EP022, EP029, EP033, EP035, EP039, EP040, EP041, EP045, EP047, EP048, EP051, EP052, EP053, EP059

AUTOATT

Activates the BIM-EPIC Autoattach feature. The default is NO. AUTOATT=YES should only be specified when Autoattach has been properly installed. Refer to "Autoattach Installation."

Related Configuration Options: VM

AUTOCAT

Determines whether output datasets are automatically cataloged. The CYCL and RETEN options determine what retention criteria are put in the dataset definition.

Specify two values separated by a comma and enclosed in parentheses. The first value applies to tape datasets. The second applies to disk.

If AUTOCAT=(YES,YES), all uncataloged datasets are cataloged automatically.

If AUTOCAT=(sysparm,sysparm), only uncataloged datasets processed in a job with sysparm are automatically cataloged.

If AUTOCAT=(NO,NO) (the default), no automatic cataloging is done.

Related Configuration Options: AUTOLOG, BYPEXT, CATRT1, CYCL, NCATDSK, RETEN

Related Special Options: EPS018

AUTOLOG

Determines whether input tape datasets are automatically cataloged.

If AUTOLOG=YES, all uncataloged input tape datasets are cataloged automatically. The CYCL and RETEN options determine what retention criteria are put in the dataset definition.

If AUTOLOG=NO (the default), no automatic cataloging is done.

If AUTOLOG=sysparm, only uncataloged input tape datasets processed in a job with sysparm are cataloged automatically.

Related Configuration Options: AUTOCAT, CYCL

AUTOSTP

AUTOSTP=YES enables the AutoStop feature, which controls periodic Automatic Volume Recognition (AVR) scanning for tapes. Default is NO (AutoStop is inactive).

Related Configuration Options: AUTSTPN, AUTSTPNO, AUTSTPT, AUTSTPTO, ERDFILE, TAPE

Related Special Options: EPS078

AUTSTPN

Determines the number of times the AutoStop feature scans the tape drives before operator intervention is required when looking for an input tape. The value specified must be a number between 1 and 999. The default is 5. If AUTSTPNO=0, is specified, AUTSTPN also applies to output tapes. Valid only with AUTOSTP=YES.

Related Configuration Options: AUTOSTP, AUTSTPNO, AUTSTPT, AUTSTPTO, ERDFILE, TAPE

AUTSTPNO

Determines the number of times the AutoStop feature rescans the tape drives before operator intervention is required when looking for an output tape. The value specified must be a number between 0 and 999. If AUTSTPNO=0 (the default) is specified, then AUTSTPNO defaults to using the AUTSTPN value.

Related Configuration Options: AUTOSTP, AUTSTPN, AUTSTPT, AUTSTPTO, ERDFILE, TAPE

AUTSTPT

Determines the time interval (in seconds) between tape drive scans during AutoStop processing when looking for an input tape. If AUTSTPTO=0 is specified, AUTSTPT also

applies to output tapes. The value specified must be a number between 1 and 999. The default is 10. Valid only with AUTOSTP=YES. If running under VM prior to VM/ESA, be sure REALTIMER has been specified in the VM directory.

Related Configuration Options: AUTOSTP, AUTSTPN, AUTSTPNO, AUTSTPTO, ERDFILE, TAPE

AUTSTPTO

Determines the time interval (in seconds) between tape drive scans during AutoStop processing when looking for an output tape. The value specified must be a number between 0 and 999. If AUTSTPTO=0 (the default) is specified, then AUTSTPTO defaults to using the AUTSTPT value. If running under VM prior to VM/ESA, be sure REALTIMER has been specified in the VM directory.

Related Configuration Options: AUTOSTP, AUTSTPN, AUTSTPNO, AUTSTPT, ERDFILE, TAPE

BYPEXT

Determines whether BIM-EPIC bypasses the DSN Catalog if a complete EXTENT statement is specified.

If BYPEXT=YES, BIM-EPIC bypasses the DSN Catalog search at OPEN when you specify a complete EXTENT for the file. It accesses the DSN Catalog only when there is no EXTENT or when Start Track 1 datasets are used.

If BYPEXT=NO (the default), BIM-EPIC always accesses the DSN Catalog for disk files.

Related Configuration Options: AUTOCAT, DISKALL

CANMSG

Determines whether EP065 JOB CANCELLED is issued for cancelled jobs. EP065 requires an operator response before EOJ processing can be completed, and ensures that Operations is aware that the job was canceled.

If CANMSG=YES, EP065 is issued.

If CANMSG=NO (the default), EP065 is suppressed.

Related Messages: EP065

CATRT1

Determines whether Start Track 1 datasets are automatically cataloged. BIM-EPIC does not issue EP023 for datasets cataloged in this manner.

If CATRT1=YES, Start Track 1 datasets are autocataloged. The dataset is defined as WRK=YES. In addition, it specifies CYCL=0, unless you set EPS059 to YES which changes it to CYCL=1. It also specifies RET=0, unless you set EPS062 to YES which changes it to the value specified on the RETEN configuration option.

If you set CATRT1=YES, NCATDSK must be set to NO.

If CATRT1=NO (the default), Start Track 1 datasets are not automatically cataloged.

Related Configuration Options: DISKALL, NCATDSK, RETEN

Related Special Options: EPS059, EPS062

Related Messages: EP023

CKDFACT

When using DD statements for a new disk dataset version and space is requested in cylinders for a target pool containing FBA devices, CKDFACT will convert the cylinders value to a corresponding tracks value before using the value specified in FBAFACT to convert the allocation to FBA blocks. The default is 30. CKDFACT=0 indicates no conversion factor is to be applied.

Related Configuration Options: FBAFACT

CMSTAPE

Indicates whether the DSN Catalog is shared with a CA-EPIC/CMS system.

Set CMSTAPE= YES if the DSN Catalog is shared. See “Multi-CPU Environments" in Chapter 2 for catalog sharing requirements.

If CMSTAPE=NO (the default), the DSN Catalog can be shared with other VSE machines only.

CNTRL

Determines how BIM-EPIC responds to uncontrolled tape datasets.

If CNTRL=YES, BIM-EPIC issues the EP022 message to notify the operator that an uncontrolled tape file is being accessed.

If CNTRL=NO (the default), BIM-EPIC does not issue the EP022 message, and the dataset is processed as usual.

If CNTRL=CANCEL, BIM-EPIC issues the EP022 message and cancels the job.

Related Messages: EP022

CPUIDS

Indicates a specific one-character CPU ID character to be used for the common workfile and CPU independence features. If this option is not specified, BIM-EPIC will use the last digit of the CPU serial number as the CPU ID. Should this default be used in a shared environment, ensure that each sharing BIM-EPIC system gives a unique CPU ID.

BIM-EPIC supports multiple forms of the CPUIDS configuration option. The possible options are:

```
CPUID=x
CPUIDS=x
CPUIDS=(nnnnnn,x,nnnnnn,x,nnnnnn,x ...)
```

where *nnnnnn* is a real CPU ID and *x* is a CPU ID code.

CWDSPOL

Identifies the default disk pool to be used for Common Workfile datasets. When specified, this disk pool is used instead of the disk pool associated with the BIM-EPIC dataset definition (EDD). If there is insufficient space in the CWDSPOL disk pool, or if the pool packs are not found, the EDD disk pool is used.

CYCL

Determines the value of the CYC parameter for autocataloged datasets. Valid only if AUTOCAT or AUTOLOG is turned on. The default is 3.

Related Configuration Options: AUTOCAT, AUTOLOG

DDERR

Determines how BIM-EPIC handles errors that it detects on BIM-EPIC DD statements. DDERR can take one of the following three values:

When DDERR=...	BIM-EPIC...
CANCEL	Cancels the job if any error is found on a DD statement.
IGNORE	(Default) Ignores any unrecognized parameters and subparameters. No message is issued, and BIM-EPIC processes all parameters that it recognizes. IGNORE provides maximum compatibility with MVS DD statements. Its disadvantage is that misspelled parameters are ignored.
OPCORR	Issues a message identifying any errors and allows the operator to enter a correction.

NOTE: If the VSE option JCANCEL is in effect, IGNORE and OPCORR are overridden, so that the job is cancelled as if DDERR=CANCEL.

Related Configuration Options: JCANCEL (VSE)

DDGEN

Determines generation vs. work characteristic for a dataset autocataloged using BIM-EPIC DD statements with the DISP=(,CATLG) parameter. The default is DDGEN=NO.

If DDGEN=NO:

- Tape is autocataloged as generation
- Disk is autocataloged as non-generation (work datasets) unless the DOS DD parameter LABEL=RETPD is specified. In this case, the dataset is autocataloged as generation.

If DDGEN=YES:

- Tape is autocataloged as generation only when a plus (+) sign is found in the dataset name. Otherwise, tape is autocataloged as work.
- Disk is autocataloged as generation only when a plus (+) sign is found in the dataset name. Otherwise, disk is autocataloged as work.

Examples

In the following example, if DDGEN=NO, DISK.FILE is autocataloged as a work (non-generation) file. If DDGEN=YES, DISK.FILE is autocataloged as a generation file.

```
* //DISKOUT DD DSN='DISK.FILE(+1)'

* //           DISP=(NEW,CATLG),

* //           UNIT=DISK
```

In the following example, if DDGEN=NO, TAPE.FILE is autocataloged as a generation file. If DDGEN=YES, TAPE.FILE is autocataloged as a work file.

```
* //TAPEOUT DD DSN='TAPE.FILE'
* //           DISP=(NEW,CATLG),
* //           UNIT=TAPE
```

DDGEN also affects the DISP DD parameter. See the DDGEN deletion table in Chapter 6 of the BIM-EPIC *User Reference*.

DEBUG

Determines whether BIM-EPIC produces a dump (by causing an operation exception) when a job is cancelled by BIM-EPIC or when the operator responds CANCEL to a BIM-EPIC message. The default is DEBUG=NO.

Related Messages: EP065, EP094

DEFEXT

Specifies a default primary extent size for BIM-EPIC controlled disk datasets under the following conditions:

- When no extent size is indicated on the label for new datasets to be automatically catalaloged.
- When there is no primary size specified in the definition for datasets already in the catalog.

Default is DEFEXT=0.

Related Configuration Options: AUTOCAT, DEFPOL

DEFPOL

Specifies a default disk pool for BIM-EPIC controlled disk datasets under the following conditions:

- When no disk pool is indicated on the label for new datasets to be automatically catalaloged.
- When there is no disk pool specified in the definition for datasets already in the catalog.

Related Configuration Options: AUTOCAT, DEFEXT, DEFWPOL

DEFTPL

Specifies a default tape pool ID character to be used for all dataset definitions where a unique tape pool ID character has not been designated. The default is DEFTPL=NO which indicates that there is no default tape pool ID character. This configuration option is typically used in an ACL environment where tape pooling is suggested.

DEFWPOL

Defines a default disk pool to be used for WRK=YES datasets and Start Track 1 datasets. Generation datasets use the default pool specified by the DEFPOL option. If DEFWPOL is not specified, it defaults to the pool specified by the DEFPOL option.

Related Configuration Options: AUTOCAT, DEFPOL

DISKALL

Determines whether BIM-EPIC controls disk datasets. Must be NO if only BIM-EPIC tape management is desired.

Related Configuration Options: TAPE

DSKLUB

Determines how LUB allocation is handled for disk.

If DSKLUB=YES (the default), BIM-EPIC assigns SYS numbers beginning at SYS100.

If DSKLUB=n, BIM-EPIC assigns SYS numbers beginning with n. Choose a number that cannot be reassigned by user JCL.

Specify DSKLUB=NO only if DISKALL=NO.

Related Configuration Options: DISKALL

DSKRET

Specifies a default retention period for Start Track 1 datasets. If DSKRET is not used, their default retention period is seven (7) days.

Related Special Options: EPS060

DSNAME

Specifies the DTF name for the DSN Catalog. The default is DSNAME=IJSYSDS.

DSNWARN

Specifies when to issue EP402 n FREE RECORDS REMAINING. BIM-EPIC issues the EP402 message when there are n free records left in the DSN Catalog. The default is DSNWARN=200.

Related Configuration Options: DSNWMSG

Related Messages: EP402

DSNWMSG

Determines the interval for reissuing EP402 n FREE RECORDS REMAINING after the DSNWARN value is reached. EP402 is reissued each time the number of remaining free records decreases by n. For example, if DSNWARN=200 and DSNWMSG=10, EP402 is issued at 200 free records, 190 free records, 180 free records, and so on. The default is DSNWMSG=10.

Related Configuration Options: DSNWARN

Related Messages: EP402

EPICOFF

Prevents BIM-EPIC from becoming active in a static partition. Supply the ID of the partition you want to exclude. For example, to exclude the BG partition, specify EPICOFF=BG.

BIM-EPIC cannot be deactivated for VSE/ESA dynamic partitions during system initiation. You must execute TSIDDEB with an OPTION EPICOFF statement to deactivate BIM-EPIC

in dynamic partitions, either in the partition initiation procedure or as a separate step in the job.

ERDFILE

Specifies the 1 to 7-character name of the BIM-EPIC Resource Dataset (ERD).

An ERD is required to share tape devices (including ACLs) among multiple VSE machines (physical or virtual).

Related Configuration Options: ACLMEM, ACLSRVR, AUTOSTP, AUTSTPxx, MSG088, SHARE, VM

EURODAT

Enables European date format (dd/mm/yy) for display and reporting.

If EURODAT=NO (the default), U.S. date format (mm/dd/yy) is used.

FBAFACT

Determines how BIM-EPIC handles allocations to an FBA device when the allocation values are specified on the label:

DD:	The target pool (in the VOL parameter) and allocation values (TRK or CYL accompanied with a primary value and, optionally a secondary value) are specified
VSE:	The 'O' option in the dataset name and the both a target pool and allocation value in the associated EXTENT statement are specified
System/Manager:	Both the TRACKS and VOL parameters are specified

If FBAFACT=0 (the default) or the target pool is not an FBA device, BIM-EPIC will use the allocations values as supplied.

If FBAFACT is greater than zero, BIM-EPIC multiplies the allocation value by the FBAFACT value. For example, if the allocation value is 10 tracks and FBAFACT=90, BIM-EPIC will allocate 900 FBA blocks.

Related Configuration Options: CKDFACT

FRAG

Determines whether extent fragmentation can be done automatically.

If FRAG=NO (default), you must explicitly allow fragmentation with a label option or by answering FRAG to the insufficient space message.

Related Options: DLBL ‘H’, DD SPACE parameter (CONTIG subparameter)

GDI

Determines whether generic device independence is allowed. Must be YES to use most of the BIM-EPIC batch utilities. The default is GDI=YES.

GDIUR

Determines whether generic device independence is allowed for unit record devices. The default is GDIUR=YES.

Related Messages: EPS069

JCLAC

Determines if DD statements with DISP=(NEW,CATLG) are autocatalogued. If YES (the default) any dataset with a DISP=(NEW,CATLG) is autocatalogued. If NO, any dataset with DISP=(NEW,CATLG) is treated as if the DISP parameter was (NEW,KEEP).

JCLLANG

JCLLANG=YES (the default) activates EPIC's Job Management Control Language (JMCL).

JCLOPT

Determines whether alphabetic TLBL options are allowed and whether EP033 ACCESSING and EP047 CATALOG COMPLETE can be issued. The default is JCLOPT=NO.

Related Special Options: EPS026, EPS042

Related Messages: EP033, EP047

JCLOVRDE

Updates an existing DSN Catalog entry for datasets defined with DD statements or with System Manager JCL, if DISP=(x,CATLG) is specified. EPM32 UPDATED CATALOG is issued when the update occurs. The default is JCLOVRDE=NO.

Related Messages: EPM32

JOBACCT

Activates job accounting. Job accounting information is logged in the Recorder File.

If JOBACCT=YES (the default), you must set JA=YES in the IPL SYS statement.

JOBACCT should be set to YES unless you are otherwise instructed by BIM-EPIC Technical Support.

Related Configuration Options: RECORD

Related Programs: TSIDARP, TSIDBRP, TSIDJAC, TSIDJLD, TSIDTAC

JQNAME

Specifies the one to seven-character DTF name for the separate JOBQ File. Use this option only when using a separate JOBQ File. If this option is not used, the JOBQ records are placed in the DSN Catalog. We suggest using IJSYSJQ as the DTF name for the separate JOBQ file.

Related Messages: EP442

JQWARN

Specifies when to issue EP402 n FREE RECORDS REMAINING. BIM-EPIC issues the EP402 message when the number of free records left in the separate JOBQ File matches this number. Use this option only when using a separate JOBQ File. The default is JQWARN=0.

Related Messages: EP402

JQWMSG

Determines the interval at which the EP402 message is reissued after the JQWARN value is reached. The message is issued each time the number of free records in the JOBQ file is decreased by the number you set. Use this option only when using a separate JOBQ file. The default is JQWMSG=0.

Related Messages: EP402

MINDEX

Requests creation and use of master index for DSN Catalog.

MINDEX=YES indicates master index is used.

MINDEX=NO (the default) indicates that no master index is used.

Related Programs: TSIDCDK

MINRET

Defines the minimum retention period (in days) for Start Track 1 datasets. If the retention period specified on the label statement is less than the value specified here, the retention period is forced to this value. The default is MINRET=7.

MODE

MODE defines the default tape density to be used unless specified differently in the dataset label, the BIM-EPIC DSN Catalog entry for the dataset, or an ASSGN statement override. If MODE is provided, the TPAMODE configuration option cannot be used. The default is D0.

Related Configuration Options: TPAMODE

The following densities are supported for 3480/3490 devices:

00 Buffered write mode
08 Buffered write mode with IDRC
20 Unbuffered write mode
28 Unbuffered write mode with IDRC

The following densities are supported for 8809/9347 devices:

30 High speed / short gap
50 Low speed / long gap
60 Low speed / short gap
90 High speed / long gap

The following densities are supported for 3424/9348 devices:

42 Buffered write mode 1600 bpi
62 Unbuffered write mode 1600 bpi
C2 Buffered write mode 6250 bpi
E2 Unbuffered write mode 6250 bpi

The following densities are supported for 3410/3420/3422/3430 devices:

D0 6250 bpi
C0 1600 bpi
C8 800 bpi

The following densities are supported for 3490E devices:

F0 Buffered write mode (3490E)
F8 Buffered write mode with IDRC (3490E)

Modes F0 and F8 are used internally by BIM-EPIC to distinguish 3490E tape cartridge drives from 3480/3490. Because VSE/ESA does not support these modes directly, BIM-EPIC sends mode 00 or 08 to the 3490E hardware whenever modes F0 or F8 are specified.

Related Special Options: EPS073, EPS075, EPS078

MSG088

Determines whether EP088 DISMOUNT CARTRIDGE is issued. If MSG088=NO (the default), this message is not issued.

If MSG088=YES, EP088 is issued each time a tape volume is dismounted from a cartridge device. The BIM-EPIC Resource Dataset (ERD) is updated at dismount time. MSG088=YES is required if ACLIBM=YES or ACLMEM=YES are specified.

Related Configuration Options: ACLIBM, ACLMEM, ACLSRVR, ERDFILE, VM

Related Messages: EP088

MULTCPU

Specifies whether the DSN Catalog is shared between multiple CPUs. *If you are sharing your DSN Catalog, MULTCPU must be set to YES.* The default is MULTCPU=NO.

If MULTCPU=YES, see 2-68 for more information on DSN Catalog sharing requirements.

NCATDSK

Specifies whether the DSN Catalog is searched when processing Start Track 1 datasets.

If NCATDSK=YES, the DSN Catalog is not searched if the starting track is 1. The file is allocated using the information on the EXTENT statement alone. YES is valid only if CATRT1 and the disk parameter of AUTOCAT are both set to NO.

If NCATDSK=NO (the default), BIM-EPIC searches the catalog. If there is an existing dataset definition, that definition is used to allocate the dataset. If no definition exists, the dataset is allocated using the information from the EXTENT statement.

Related Configuration Options: AUTOCAT, CATRT1

NOGVIS

Determines how BIM-EPIC responds to insufficient partition GETVIS during an open. It does not affect insufficient GETVIS for reblocking, generic device independence, or data encryption.

If NOGVIS=CANCEL (the default), BIM-EPIC cancels the job.

If NOGVIS=IGNORE, BIM-EPIC ignores all processing in the partition. It does not control or provide protection for any dataset opened.

ONLREWCD

Specifies the rewind code used when closing the offload tape after the file is reloaded for use by a job. The default is RUN (unload) and can be changed to REW by the user.

PASSWD

Determines whether password protection is invoked for DSN Catalog management. To invoke password protection, specify PASSWD=*password*.

PREFIX

Specifies the first two characters for BIM-EPIC error messages. Default is EP

PURBYP

Determines how disk files flagged for purge are handled if the job cancels.

If PURBYP=YES, the files are retained (the purge is bypassed).

If PURBYP=NO (the default), the files are purged.

RECORD

Specifies whether you want the Recorder to log all DSN Catalog activity. RECORD does not turn on the Recorder. The default is RECORD=YES.

WARNING!

RECORD should always be set to YES. The Recorder logs information about your DSN Catalog which is essential for full recovery in an emergency.

Related Configuration Options: JOBACCT, RECSHR

Related Programs: Job Accounting

RECSHR

Specifies whether the Recorder File is shared between VSE machines. The default is RECSHR=NO.

RERUN

Determines whether RERUN is a valid response to the EP001 MOUNT message. The default is RERUN=YES.

Related Messages: EP001, EP067

RETEN

Specifies retention period (in days) to be used for autocataloged datasets. The default is RETEN=7.

Related Configuration Options: AUTOCAT

RMNTPRT

Enables you to print dataset labels for tape datasets at open. The default is RMNTPRT=NO.

SHARE

Allows tape drives to be shared among physical VSE machines. The default is SHARE=NO.

Related Configuration Options: ERDFILE

Related Special Options: EPS008, EPS074

WARNING!

If you are sharing tape drives among physical CPUs, SHARE must be set to YES.

SLASIZE

Specifies the total number of labels for all static partitions combined. Label entries reside in the Label Interface Table, which is allocated in system GETVIS (31-bit GETVIS if available). Default is 300. An active label exists for each BIM-EPIC-controlled dataset opened by a program that is still running. One table entry is required for every label. Each entry requires 227 bytes.

For each dynamic partition, there is a limitation of 256 labels which cannot be enlarged.

STRTRK

If you specify a number, this option determines what starting track or block address on an EXTENT statement defines a Start Track 1 dataset. This value must be a number greater than 0. If STRTRK=NO, this option prohibits the use of Start Track 1 datasets, including controlled uncataloged disk files defined by DD statements. The default is STRTRK=1.

Related Programs: Offload

TAPCUU

Indicates the address of your dummy tape device. See “Adding a Dummy Tape Device and Modifying Tape Modes" for more information about the dummy tape device. The default is TAPCUU=F00.

TAPE

Determines whether BIM-EPIC controls tape datasets. Must be NO if only BIM-EPIC disk management is desired.

Related Configuration Options: DISKALL.

TAPLUB

Determines how LUB allocation is handled for tape files.

If TAPLUB=YES (the default), LUB allocation is activated and BIM-EPIC assigns SYS numbers beginning at SYS010.

If TAPLUB=NO, LUB allocation is inhibited. TAPLUB=NO is required in order to set EPS032=YES.

If TAPLUB=*number*, LUB allocation is activated and BIM-EPIC assigns SYS numbers beginning with *number*, which can be from 001 to 255.

Related Special Options: EPS032

TAPPOL

Specifies which tape pool group to activate when starting BIM-EPIC. Required for tape pooling. You must define at least one tape pool group and assemble the TSIDPOL macro before activating BIM-EPIC with the TAPPOL option. See 2-44 for further information. *Do not specify TAPPOL if you are not using tape pools.*

TPAMODE

TPAMODE defines the default tape density to be used for TPA drives (3590s) unless specified differently in the dataset label, the BIM-EPIC DSN Catalog entry for the dataset, or an ASSGN statement override. If TPAMODE is provided, the MODE configuration option cannot be used.

If TPAMODE is provided, the MODE configuration option cannot be used.

The following modes are supported for native 3590 devices (those that do not emulate 3490E's)

Modes 00-0F are Buffered Write modes:

00 Device default format (this is not the VSE Default)
01 Model-dependent Format 1
02 Model-dependent Format 2
03 Model-dependent Format 3
04 Model-dependent Format 4
05 Model-dependent Format 5
06 Model-dependent Format 6
07 Model-dependent Format 7
08 Device default format with Data Compression (this is VSE Default from ADD nn,TPA
09 Format 1 with Data Compression
0A Format 2 with Data Compression
0B Format 3 with Data Compression
0C Format 4 with Data Compression
0D Format 5 with Data Compression
0E Format 6 with Data Compression
0F Format 7 with Data Compression

Modes 20-2F are Unbuffered Write modes and correspond to 00-0F.

Related Configuration Options: MODE

TSTJOB

Defines the job name that activates the Testjob feature.

You can use wildcard characters(*) and (?) to define the TESTJOB name. A question mark (?) specifies that any character in that position is a valid character. An asterisk (*) specifies that all characters in that position and following are valid.

For example, if you specify TSTJOB=A*, all job names beginning with A activate the TESTJOB feature. If you specify TSTJOB=A?AAAA, the job names ABAAAA, ACAAAA, and AXAAAA activate the TESTJOB feature. If you specify TSTJOB=A?A*, the job names ADAAJA, AFA, and AZAWS activate the TESTJOB feature.

UNCDSK

Determines whether LUB allocation, AVR, and device independence are invoked for uncontrolled disk files. The default is UNCDSK=NO.

UNCTAP

Determines whether tape drives are released at close for uncontrolled tape files and if TLBL options codes are honored for uncontrolled files. This includes both early drive release and Autoattach's DETACH. UNCTAP=YES is required to honor TLBL option codes for uncontrolled files. The default is UNCTAP=NO.

Alternate ASSGN statements or the TLBL option 8 bypasses this feature (override UNCTAP=YES).

Related Configuration Options: AUTOATT

Related Special Options: EPS063, EPS081

UNCTL

Specifies whether controlled scratch tapes can be used to write uncontrolled files. The default is UNCTL=NO.

If UNCTL=YES and a controlled tape is used for an uncontrolled file, BIM-EPIC purges its volume serial number from the DSN Catalog.

UNLABEL

UNLABEL=YES (the default) permits writing unlabeled tapes and ASCII tapes on BIM-EPIC-controlled standard label tapes.

If UNLABEL=NO, unlabeled and ASCII output is not allowed on BIM-EPIC-controlled standard label tapes. In addition, EPS064 has no effect.

Related Special Options: EPS058, EPS064

Related Messages: EP004

UNLOAD

Specifies default positioning for tape close.

UNLOAD=YES causes tapes to be unloaded at close automatically, unless there is already a TLBL option code 1 (rewind), 2 (unload) or 3 (no rewind) in effect. UNLOAD=YES overrides any explicit or default rewind options by setting the DTF to rewind at open and unload at close.

UNLOAD=NO (the default) causes BIM-EPIC to honor any rewind options specified in the DTF unless they are specifically overridden by a TLBL option code.

VGSFTAPE

For IBM 3494 ACL's controlled through VGS, set to YES or NO.
For IBM 3494 ACL's controlled through LCDD, no need to specify.
For STK and Memorex ACL's, no need to specify.

VGSFTAPE=YES (the default) specifies that a free ACL tape drive must be available for any request that EPIC makes to the 3494 (Mount, Scratch, Eject). This was a requirement in the original IBM RMS support for 3494's. (*Free* means the drive is not attached to any VM Guest Machine)

VGSFTAPE=NO specifies that an unused ACL tape drive does not need to be available for non-mount requests made to the 3494 (Scratch, Eject). Do not code "NO" unless your installation is using VM/ESA Version 2, Release 2 or above. Early versions of this release level may require an IBM APAR to DFSMS RMS to be installed. If ACLAUTI=YES is also specified, NO will be temporarily replaced with YES for ACL SYNC processing since a cartridge may need to be mounted and initialized during synchronization processing.

VM

Activates VM support. The default is VM=NO.

VM support is required for Autoattach and JMCL CP command processing.

VM support is also recommended for VSE guest machines running under VM even if autoattach is not being used. In this type of environment, VM support causes BIM-EPIC to limit AVR scans to tape drives already attached to the VSE guest. Without VM support, tape drives defined to the VSE guest but not attached to a real device must be "deviced down" to prevent BIM-EPIC access during AVR scans. Failure to do so results in the VSE error OP31A DVC NOT OP on any VSE tape drive not attached to a real device.

YES activates VM support with a supervisor call of 111.

n activates VM support with a supervisor call of your choice. Use this option if SVC 111 is already being used for another call. Specify a free SVC number for n.

NOTE: If the SVC number activated is already in use, BIM-EPIC issues an error message. It does not overlay existing SVC code. If this occurs, choose a new SVC number with the n option.

NO deactivates VM support.

Related Configuration Options: ACLMEM, ACLSRVR, AUTOATT, ERDFILE, MSG088

VSAM Determines whether VSAM file activity is reported in the DSN Catalog. Information is captured at file close. The default is VSAM=NO.

Special Options

Introduction

BIM-EPIC provides special configuration options to meet a wide range of special user requirements. Please review each special option to determine whether it is needed at your site.

Special options can be used to implement the following types of features:

- Special BIM-EPIC Functions
- IBM Product Interfaces
- Non-IBM Product Interfaces
- Conversions

Submitting Special Options

Special configuration options are submitted on OPTION control statements to TSIDON or TSIDDEB, just like regular configuration options.

Format

Parameter	Required?	Values	Default
EPS*nnn*	No	YES or NO	NO

Example

```
// EXEC TSIDON
OPTION EPS002=YES,EPS003=YES
OPTION EPS005=YES
/*
```

Supported Uses

Special configuration options support the following operational categories:

Disk Management	EPS065	**Tape Management**
EPS009	EPS069	EPS008
EPS010		EPS012
EPS011		EPS014
EPS021	**Start Track 1 Datasets**	EPS015
EPS023	EPS059	EPS019
EPS024	EPS060	EPS020
EPS025	EPS062	EPS027
EPS041	EPS092	EPS028
EPS044		EPS032

EPS033

EPS035

EPS040

EPS042

EPS043

EPS045

EPS058

EPS063

EPS064

EPS067

EPS071

EPS073

EPS074

EPS075

EPS078

EPS081

EPS082

EPS084

EPS087

EPS088

JCL, DD Statements and JMCL

EPS005

EPS017

EPS018

EPS022

EPS026

EPS036

EPS059

EPS062

EPS083

LUB Allocation

EPS001

EPS002

EPS003

EPS004

EPS030

EPS031

EPS039

EPS057

EPS061

EPS068

Non-IBM Product Interfaces

EPS006

EPS007

EPS029

EPS072

Conversions

CA-DYNAM®

EPS046

EPS047

EPS055

CA-Super-EPAT®

EPS048

EPS055

CA-System/Manager®

EPS049

EPS051

EPS052

EPS053

EPS054

EPS059

EPS062

EPS077

EPS086

EPS090

IBM Tape

EPS066

Special Option Descriptions

EPS001 Permits LUB allocation for the DTF names UIN and UOUT.

EPS002 Permits LUB allocation for SORTWK DTF names.

EPS003 Permits LUB allocation for SORTIN or SORTOUT DTF names.

EPS004 Permits LUB allocation for non-standard SORTIN DTF names processed through TSIDSRT.

Related Program: TSIDSRT

EPS005 Prevents BIM-EPIC from honoring an ASSGN IGNORE for the SYS number used by the DTF or EXTENT statement unless LUB allocation is also inhibited.

EPS006 Activate for compatibility with PSAM from Universal Software.

EPS007 Allows use of physical backup utilities to back up Start Track 1 datasets. EPS007=YES bypasses the check for USRLABL=YES in the DTF and resolves VSE messages 4359I INVALID EXTENT and 4342D NO MATCHING EXTENT when backing up Start Track 1 datasets. EPS007=YES is not required for backing up cataloged files. Products known to require EPS007=YES include Westinghouse DUSP, Doctor D, and Blueline MAXBACK.

EPS008 If SHARE=NO, EPS008=YES allows use of tapes in open status by the job name that opened the tape.

Related Configuration Options: SHARE

Related Special Options: EPS074

EPS009 EPS009=YES suppresses allocation of an EOF extent when the DLBL ‘N’ option is specified.

EPS010 Bypasses normal ISAM and DA checks for FBA devices. EPS010=YES suppresses EP070 DTF TYPE NOT SUPPORTED ON FBA when DTFIS or DTFDA is opened on an FBA disk device. When EPS010=YES, BIM-EPIC allocates a direct access or ISAM file on an FBA

device, even though VSE LIOCS does not support it. EPS010=YES can be required for some software products using PIOCS, including ADR's DATA-REPORTER.

Related Messages: EP070

EPS011

Searches every pool volume to delete any equal file IDs for cataloged non-generation files on output. This is the same process BIM-EPIC uses for Start Track 1 datasets.

EPS011=YES can be necessary to prevent duplicate VTOC entries if you share your DSN Catalog between machines, but your pool volumes are not defined as shared to all the VSE machines with access to that DSN Catalog. This situation is encountered with some CA-DYNAM conversions.

WARNING!

EPS011=YES significantly increases BIM-EPIC overhead. As a more desirable alternative to EPS011, we recommend that you define all BIM-EPIC pool volumes as shared to all VSE machines accessing the same DSN Catalog.

EPS012

Allows tapes to be scratched at close (both output and input) when you specify TLBL option 4.

EPS014

EPS014=YES disallows tapes initialized by DITTO to be used as scratch tapes.

Related Special Options: EPS033 (mutually exclusive)

Related Messages: EP096

EPS015

EPS015=YES honors the rewind options on TLBL and DD statements for all multi-volume tapes, both input and output, and prevents VSE from automatically unloading multi-volume tapes at EOV.

EPS017

Causes the dataset name to default to the DTF name if no dataset name is specified. The normal default is blanks.

EPS018

Reverses the way AUTOCAT=*sysparm* works. Normally, a dataset is cataloged when the VSE SYSPARM matches the AUTOCAT value. With this option, the dataset is cataloged when the VSE SYSPARM does not match the AUTOCAT *sysparm*.

Related Configuration Options: AUTOCAT

EPS019

Prevents tapes in open or conditional catalog status from being used as scratch tapes.

EPS020

EPS020 determines which field takes priority when a TLBL contains both a dataset name and a volume serial number.

When EPS020=YES, the dataset name is ignored and the volume serial number is used to determine whether a dataset is controlled or uncontrolled.

When EPS020=NO (the default), the dataset name is used to determine if a dataset is controlled or uncontrolled. If the dataset is controlled, the volume serial number must be a valid version of that dataset, or the job is cancelled.

EPS021

Bypasses issuing of EP081 INVALID EXTENT when a requested extent is not found in the VTOC. It forces EOF if the next extent sequence is not found in the VTOC, even though it is shown in the DSN Catalog.

Related Messages: EP081

EPS022

Bypasses issuing of EP077 REBLOCK INVALID FOR UNBLOCKED DTF when BIM-EPIC is not able to reblock the DTF. User programs can subsequently cancel with a wrong length record error.

Use EPS022=YES only if EP077 is issued and cannot be circumvented.

Related Messages: EP077

EPS023

1. Permits reusing the same extent when the current extent has been truncated. This is valid for a TYPEFLE=WORK DTF and a DLBL 'S' option.

2. Bypasses the truncation check when accessing a sequential file as direct access. This option circumvents the EP046 FILE NOT FOUND message which is normally issued. When accessing files with a DA label, EP046 occurs if the file was written with an SD DTF and truncated at close. The proper solution is to inhibit truncation at close.

Related Messages: EP046

EPS024

Bypasses forced deblocking when CISIZE is specified.

EPS025

Bypasses checking and recalculation of CISIZE. Some programs perform logical opens but do their own deblocking (similiar to PIOCS).

EPS026

EPS026=YES replaces a single ampersand (&) found in the dataset name on a TLBL with the CPUID. You must also specify JCLOPT=YES. The proper solution is to code a single equal sign (=).

Related Configuration Options: JCLOPT

EPS027

EPS027=YES disables revolving tape control. This option bypasses EP085 REVOLVING TAPE INVALID and allow non-revolving tapes to used for revolving datasets.

Related Messages: EP085

EPS028

EPS028=YES allows you to use single-digit owner IDs.

EPS029

Activates compatibility with CA's ALERT product. EPS029=YES leaves the dataset name in tape labels instead of clearing it to blanks. This allows ALERT to perform its security check on the dataset. However, VSE issues the 4132D ERROR IN FILE-ID message every time you process tape datasets that have been renamed or that were originally created under CA-Super-EPAT.

EPS031

Provides GDIUR support for CICS 1.7 pre-processor programs. Set EPS031=YES only if the first record output to a GDIUR file by a CICS 1.7 pre-processor program contains binary zeros.

Related Configuration Options: GDIUR

EPS032

Performs an AVR scan even if the ASSGN statement is specified. This prevents the issuing of EP009 WRONG DATASET/VERSION if an ineligible tape was mounted on the assigned drive. ACCEPT=NO and TAPLUB=NO must also be specified.

Related Configuration Options: ACCEPT, TAPLUB

Related Messages: EP009

EPS033

Allows only tapes with volume serial numbers entered in the DSN Catalog to be used as scratch tapes. The tape does not have to contain a BIM-EPIC VOL1 label. If the tape volser is entered in the DSN Catalog but the tape does not yet have a BIM-EPIC label, BIM-EPIC allows it to be used for uncontrolled output. This option also prevents issuing of EP003 VERIFY SERIAL NUMBER. Normally, BIM-EPIC accepts any BIM-EPIC or DITTO-initialized tape and adds unknown volume serial numbers to the DSN Catalog.

Related Special Options: EPS014 (mutually exclusive)

Related Messages: EP003, EP004, EP096

EPS035

Emphasizes the EP001 and EP002 mount messages. EPS035=YES rings the console bell and sets non-deletable flags when these messages are issued after an unsuccessful AVR scan. *Not supported on ESA 2 and above.*

Related Messages: EP001, EP002

EPS036

Displays JMCL and CP statements on the console and/or SYSLST (depending on OPTION LOG settings). These statements are normally suppressed.

EPS039

Bypasses * CP commands after a cancellation. The * CP commands must appear in the job stream before the /&.

Related Configuration Options: VM

EPS040

Does not search the catalog for the tape volser after you respond ACCEPT to EP009 INCORRECT DATASET/VERSION if the tape does not have BIM-EPIC VOL1/HDR1 labels.

Related Configuration Options: ACCEPT

Related Messages: EP009

EPS041

EPS041=YES changes BIM-EPIC calculations to correctly determine the high extent address on minidisks that do not occupy a full volume and are in a BIM-EPIC pool. Normally, the default number of alternate cylinders is subtracted from the total number of cylinders when calculating the size of the disk volume. However, on a minidisk that does not occupy a full volume, this can cause the calculated extent address to be lower than the actual usable high extent number. EPS041=YES causes BIM-EPIC to use the actual number of alternate tracks remaining.

EPS042

Enables the EP033 ACCESSING and EP047 CATALOG COMPLETE messages even though the JCLOPT configuration option is set to NO. Use this option when you have tape dataset names containing commas (which forces you to code JCLOPT=NO) but you still want these messages issued.

Related Configuration Options: JCLOPT

Related Messages: EP033, EP047

EPS043

EPS043=YES enables the EP005 LABEL message for work tapes.

Related Messages: EP005

EPS044

Enables issuing of message EP052 TRUNCATED TO regardless of any configuration option settings.

Related Configuration Options: ALLMALL

Related Messages: EP052

Related Functions: DLBL, DD

EPS045

EPS045=YES prevents BIM-EPIC control (input verification or output qualification) of 7-track tape drives that are already assigned using JCL. When EPS045=YES, 7-track tapes must be controlled manually. This option is used primarily for printing subsystems attached as 7-track tape drives.

EPS046

Processes scratch tapes that have DYNAM/CMS VOL1 labels.

EPS047

Automatically changes EXEC TDYNASN to EXEC TSIDASS. EPS047=YES allows BIM-EPIC to process scratch tapes with DYNAM/T (VSE) HDR1 labels.

Related Programs: TDYNASN, TSIDASS

EPS048

1. Processes scratch tapes with CA-Super-EPAT VOL1 labels.

2. Automatically changes EXEC DSCASSGN to EXEC TSIDASS and EXEC DSCTPTP to EXEC TSIDDTD.

3. Moves the primary dataset name from the HDR1 record into the label for EPAT input tapes. This circumvents the VSE message 4132D ERROR IN FILE ID which would normally occur if CA-Super-EPAT options were specified when the tape was created.

Related Programs: TSIDASS, TSIDDTD

EPS049

EPS049=YES allows BIM-EPIC to process scratch tapes with CA-System/Manager HDR1 labels and automatically converts CA-System/Manager labels and step cards. To be effective, this special option ***must*** be specified during initial BIM-EPIC start-up. It cannot be specified as an OPTION to the TSIDDEB program.

EPS051

If MULTCPU=YES is specified, EPS051=YES causes BIM-EPIC to append ".===" to the end of all dataset names at JCL time if the CA-System/Manager label does not have a GEN or KEEP parameter and there is no PIND parameter. If MULTCPU=NO is specified, ".==" is appended instead of ".==="

Related Special Options: EPS077

EPS052

EPS052=YES causes BIM-EPIC to release the drive assignment when the REW parameter is specified with the SYSnnn parameter on a CA-System/Manager TLBL. This differs from normal CA-System/Manager operation which releases the assignment only if the RUN parameter is specified with the SYSnnn parameter.

EPS053

EPS053=YES causes BIM-EPIC to release the drive assignment whenever the SYSnnn parameter is specified on a CA-System/Manager TLBL statement, no matter what rewind options are specified.

NOTE: To stack multiple files on the same tape with EPS053=YES, you must rewind to load point after every file. BIM-EPIC automatically repositions the tape after rewind. However, this can increase run time significantly.

EPS054

EPS054=YES causes the tape drive assignment to be held when NOREW is specified on a CA-System/Manager TLBL.

EPS055

EPS055=YES supports &P, &&P, &P@, CPU--, @== and/or ==@ in the dataset name. JCLOPT=YES is also required to support these variables on TLBL statements.

Related Configuration Options: JCLOPT

EPS057

EPS057=YES permits LUB allocation for direct access files.

EPS058

EPS058=YES allows BIM-EPIC to support 7-track tape drives.

EPS059

EPS059=YES forces CYC=1 retention for datasets automatically cataloged with the CATRT1 configuration option, with DD statements, or with non-generation disk datasets cataloged with CA-System/Manager DLBLs (NEW datasets that do not have KEEP or GEN).

Related Configuration Options: CATRT1

EPS060

EPS060=YES forces the retention period for Start Track 1 datasets to the DSKRET value. The retention on the DLBL statement is ignored.

Related Configuration Options: DSKRET

EPS061

EPS061=YES forces LUB allocation for tapes even if the logical unit specification in the DTF is available.

EPS062

EPS062=YES causes BIM-EPIC to use the period retention specified by the RETEN configuration option, rather than a retention period of zero (0), when automatically cataloging non-generation disk datasets with the CATRT1 configuration option, DD statements, or CA-System/Manager DLBLs. A retention period on the DLBL still overrides the default retention period in the autocataloged dataset definition.

Related Configuration Options: CATRT1, RETEN

EPS063

EPS063=YES releases the tape drive on close for uncontrolled, unlabeled tapes when there is no TLBL for the tape. Normally, the assignment is held until EOJ if no TLBL is specified. UNCTAP must also be set to YES.

Related Configuration Options: UNCTAP

EPS064

If EPS064=YES and UNLABEL=YES, BIM-EPIC allows AVR to use BIM-EPIC-controlled standard label scratch tapes when creating an unlabeled tape. If UNLABEL=NO, EPS064 has no effect.

Related Configuration Options: UNLABEL

EPS065

EPS065=YES causes TVTO displays to default to tracks instead of cylinders.

EPS066

EPS066=YES allows BIM-EPIC to process scratch tapes with HDR1 labels created by the IBM TAPE management product.

EPS067

Enables issuing of EP093 ACCESSING PRIOR VERSION.

If EPS067=YES, the message EP009 INCORRECT DATASET/VERSION is issued, requiring operator response to continue. Set to YES when:

(a) primary access to subdatasets is random, and

(b) multiple versions of the same subdataset reside on the same tape.

When EPS067=NO, BIM-EPIC does not issue the EP009 message when the volser of a currently assigned, mounted and positioned tape is different from the volser of the version requested through JCL. This permits the RERUN and ACCEPT features, used with the first file opened, to control subsequent access of additional files on the tape. EP093 ACCESSING PRIOR VERSION is issued when a different version of the requested dataset is accessed automatically as a result of EPS067=NO. Set to NO when the primary access of subdatasets is sequential.

Related Configuration Options: ACCEPT, RERUN

Related Messages: EP009, EP093

EPS068

Suppresses SYS number conflict detection and the following messages:

- EP089 LOGICAL UNIT ALREADY IN USE
- EP090 POOL LEVELING INHIBITED

SYS number conflict detection is only a consideration if the following are true:

- the VSE DASD file protect feature is active
- LUB allocation is being inhibited

EPS069

EPS069=YES changes print line length to 121 characters when routing SYSLST output from BIM-EPIC utilities to disk with a VSE DLBL. When using EPIC's GDIUR support, EPS069=YES is not needed and the full 133-character print line can be redirected to disk.

Related Configuration Options: GDIUR

EPS071

Permits tapes ending in 'S' to be used with datasets that have been cataloged with SIZ=LARGE (the default size).

EPS072

EPS072=YES bypasses updating BLKSIZE, LRECL and RECFM=UNDEF in version records if the DTF was originally opened as RECFM=FIXBLK but the block size was not a multiple of the LRECL.

EPS073

Bypasses 9348/3424 devices during AVR if mode is 00.

Related Configuration Options: MODE

Related Special Options: EPS075

EPS074

If SHARE=NO and EPS008=YES, EPS074=YES allows tapes in conditional status to be reused for output by the job name that originally created them.

Related Configuration Options: SHARE

Related Special Options: EPS008

EPS075

EPS075=YES uses the value in the MODE configuration option to set a default density for uncontrolled datasets when only a response of cuu is given to EP011 UNASSIGNED INPUT/OUTPUT or EP073 TAPE UNIT NOT READY. However, a mode that is explicitly specified in the response (cuu,mm) overrides the default density.

Related Special Options: EPS073, EPS078

Related Messages: EP011, EP073

EPS077

EPS077=YES appends ".===" to the end of dataset names on CA-System/Manager labels if KEEP or GEN is not specified. This special option works in conjunction with special option EPS051. When EPS051 is specified, any dataset name with OLD specified will be checked for in the DSN catalog prior to appending the ".===". If a matching name is found, the ".===" will not be appended. EPS077=YES bypasses this catalog check for OLD datasets resulting in ".===" being appended to any dataset name if KEEP or GEN is not specified.

Related Special Options: EPS051

EPS078

EPS078=YES bypasses output tape AVR scan if there is no density specified in the TLBL (via override), in the dataset definition (in the DSN catalog), or as the BIM-EPIC system default (on the MODE option for TSIDON). When EPS078=YES, we recommend that the AUTOSTP configuration option be set to NO.

Related Configuration Options: AUTOSTP, MODE

Related Special Options: EPS073, EPS075

EPS081

If EPS081 is set to YES, when a label mismatch is found on an uncontrolled input tape and BIM-EPIC configuration option UNCTAP=YES, the IBM message 4132D is not issued.

Related Configuration Options: UNCTAP

EPS082

Determines whether a leading tapemark is written to unlabeled tapes only when using the BIM-EPIC feature to dynamically change a standard-label DTF to an unlabeled DTFMT (TSIDMNT LBL=NO or EOM UNLABEL=YES).

If EPS082=YES, unlabeled tapes are created with leading tapemarks.

If EPS082=NO (the default), the unlabeled tapes are created without leading tapemarks.

EPS083

Changes “SORT" to “TSIDSRT" in EXEC statements. This is intended for use by conversion sites that run CA-SORT or IBM’s SM-2 sort and have not converted their JCL. *If EPS083=YES, it is not possible to execute SORT directly unless BIM-EPIC is turned off in the partition, or the sort program is relinked under a name other than SORT. But do not simply rename SORT because all internal programs call it that, including TSIDSRT.*

If both EPS083 and EPS089 are active, EPS083 will prevail causing EPS089 to be ignored.

Related Program: TSIDSRT

EPS084

Causes BIM-EPIC to function as it did before Version 5.1, as follows:

Beginning in Version 5.1, if a tape drive is owned by the partition at EOJ (/& or a new JOB card), BIM-EPIC will RUN the tape and detach it if AUTOATTACH is in use.

Before Version 5.1, if at EOJ a tape drive was left assigned due to cancellation or user error, the tape would stay attached and positioned as it was at EOJ. EPS084=YES causes BIM-EPIC to continue to function this way in Version 6.3.

EPS085

Bypass EP001/EP002 mount messages until autostop completes.

EPS086

Causes all System Manager DSN's to autocatalog as WORK=YES.

EPS087

Causes EP037 AVR/REL Trace Messages to be issued.

EPS088

Use real ATTACH/DETACH commands instead of VATTACH/VDETACH.

EPS089

Changed "TSIDSRT" to "SORT" on EXEC statements. This is intended for users changing to a SORT package which interfaces to BIM-EPIC. If both EPS083 and EPS089 are active, EPS083 will prevail causing EPS089 to be ignored. See Sorting with BIM-EPIC in the User Reference Guide.

EPS090

Autocatalog System Manager tape files as WRK=YES, CYC=1 if coded as NEW,KEEP. This special option will be ignored if the EXP= parameter is specified on the label.

EPS092

Prevents BIM-EPIC from reblocking start-track-1 files based on VTOC blocksize information.

EPS093

Store the 8-byte creating job name in the BIM-EPIC catalog as the concatenation of the current date MM + the current date DD + the current date Y (units digit) + the last three characters of the actual current job name only if the first five characters of the actual current job name are numeric.

EPS094

EPS094=YES suppresses autocatalog related messages EP023 (autocatalog for VSE TLBL or DLBL statements), and EPM30, EPM31, and EPM32 (autocatalog for BIM-EPIC DD statements and BIM-EPIC support for native processing of CA-System/Manager TLBL and DLBL statements).

EPS095

EPS095 is used in installations that have one or more IBM ACLs (Automatic Cartridge Libraries).

If set to YES, when BIM-EPIC is ready to send a “set volser x to scratch” command to an ACL, the following logic is applied:

> Verify that “volser x” is in the current EPIC Tape Pool.
>
> If it is not, the “set volser x to scratch” command will not be sent to the ACL even if “volser x” is in the ACLs inventory.
>
> If it is, the “set volser x to scratch” command will be sent to the ACL.

This logic is applied to scratch actions generated by TSIDMNT, EPIC Online Manager (EOM) and to ACL SYNC processing.

If set to NO (the default), normal BIM-EPIC ACL logic will apply for scratch actions.

It is recommended that this special option only be considered only in IBM ACL environments using VTS with the FASTREADY option and multiple BIM-EPIC catalogs.

EPS096

In a VM environment where the VSE Guest has only 3490 tape units, and all are of the same type (all 3490 or all 3490-E), allow BIM-EPIC to use them for output operations without an initial ATTACH/DETACH sequence having been done after a VSE/ESA IPL.

After a VSE/ESA IPL in a VM environment , BIM-EPIC is not aware of whether a tape cartridge drive is a 3490 or a 3490-E until the *cuu* has been attached to the VSE Guest for the first time. This is because the VSE PUB Extension is not completed until this has been done; and means that during BIM-EPIC’s output AVR process, 3490 drives will not be recognized.

If set to YES, BIM-EPIC assumes that all tape cartridge devices are 3490's and will allow them to be used for output even if an ATTACH/DETACH has not been done.

The default is NO.

YES should not be used unless 3490's are the only tape cartridge drives being used and they are all the same type, i.e., all 3490 or all 3490-E . If it is specified in mixed cartridge environments (3480, 3490, 3490-E), the results are unpredictable.

EPS097

If YES is specified and a tape-occupied cartridge cuu is owned at EOJ time, the cartridge will be rewound but not unloaded. ERD ownership will be released.

EPS098

If YES is specified: When auto-cataloging a CATRT1 file EPIC will set the secondary extent allocation to be the same as the primary extent allocation, instead of half of the primary allocation

---

EPS099

If ALTMSGS=NO, EPS099=YES will emit the ALTMSG format for EP005 and EPS033 messages. This setting can be useful if a console manager truncates the last few characters of the "normally" formatted" message

---

EPS100

This EPS is intended for use with COBOL/VSE and other LE/VSE-conforming program products (PL/I, C, and HLASM).

When programs created with these compilers cancel, the LE will close all open files before terminating the program. This is done to comply with ANSI standards and is a change from previous compilers such as COBOL F.

The BIM-EPIC catalog entries for any output files that were closed in this manner will be treated as "Version 1". There is no indication a cancellation has occurred and the probably invalid tape or disk data can be inadvertently used as input to follow-on programs.

When a cancellation occurs in a non-LE program, the files are not closed, and their BIM-EPIC catalog entries show as "OPEN" instead of "Version 1". This prevents them from being used as input to follow-on jobs.

EPS100=NO, the default, does not alter the above description.

EPS100=YES causes the BIM-EPIC catalog entry to be shown as "OPEN", thereby preventing the inadvertent use of the data. The files will still have been closed, however, so VSE EOF indicators will be present on the tape or disk dataset.

EPS100 does not apply to "Start Track 1" disk datasets. This is because they do not have entries in the BIM-EPIC catalog. These files will have the proper VSE EOF indicators and are available for use by follow-on jobs.

It also does not apply to any BIM-EPIC controlled datasets in a CICS partition (usually, there are no-BIM-EPIC controlled files in CICS partitions).

Turning BIM-EPIC Off (TSIDOFF)

Deactivation Requirements

BIM-EPIC remains active until VSE is IPLed or until BIM-EPIC is deactivated with TSIDOFF. You can deactivate BIM-EPIC as a whole or by partition. To deactivate BIM-EPIC by partition, use TSIDDEB. TSIDOFF automatically deactivates both the BIM-EPIC recorder and QDAS Subsystems.

Before deactivating BIM-EPIC, be sure to deactivate any systems software that was activated after BIM-EPIC was activated, in the reverse order of their activation. You do not need to IPL VSE.

Deactivate BIM-EPIC before reloading any phases loaded into the SVA for BIM-EPIC.

JCL Requirements

```
// EXEC TSIDOFF
/*
```

Maintaining the BIM-EPIC Recorder File

TSIDRFS Program

Description

TSIDRFS is the Recorder File maintenance utility. It activates and deactivates the Recorder. It also backs up and reformats the Recorder File, and logs user comments.

Control Statements

TSIDRFS functions are activated by control statements:

Statement	Action
START	Activates Recorder logging
END	Deactivates Recorder logging
BACKUP	Backs up the Recorder File
CLEAR	Initializes or clears the Recorder File
MAINT	Performs daily maintenance functions
RECORD	Records user comments in the Recorder File

The Recorder file is normally activated through the EPICON procedure and is normally maintained through the DAILY1 (or DAILY2) SAMPJOB procedure. The DAILYn SAMPJOB procedures are supplied on the BIM-EPIC distribution tape.

JCL Requirements

```
// TLBL RFBKUP,'recorder.backup.dataset'
// EXEC TSIDRFS
control-statements
/*
```

Dataset Requirements

IJSYSDR identifies the Recorder File. It is required for all functions.

RFBKUP identifies the Recorder File backup dataset. It is required only with the BACKUP and MAINT control statements.

BACKUP

Description

The Recorder File must be backed up to tape or disk before it can be used to rebuild the DSN Catalog or to create any reports. Before the Recorder File can be backed up, logging must be deactivated with the END control statement. In addition, before you re-start the Recorder, you should re-initialize the Recorder File with CLEAR.

BACKUP uses the DTF name RFBKUP to identify the backup.

For one-step backup processing, use the MAINT control statement.

WARNING!

The Recorder File must be backed up, cleared, and restarted at the same time the DSN Catalog is backed up. If your DSN Catalog and Recorder backups are not synchronized, errors or missing data can result when you do an emergency recovery of the DSN Catalog. TSIDRFS BACKUP should be executed in the same job stream with, and in the step immediately following, TSIDUTL BACKUP or FASTBU.

WARNING!

If you are running in a multi-CPU environment, you must use the TSIDRFS MAINT function to maintain the Recorder File.

Syntax

```
BACKUP
```

Example

```
// JOB RFBACK
// TLBL RFBKUP,'RECORDER.BACKUP'
// EXEC TSIDRFS
END
BACKUP
/*
/&
```

CLEAR

Description

CLEAR clears the Recorder File for the resumption of logging. It should be executed after TSIDRFS BACKUP. Before the Recorder can be cleared, logging must be deactivated with the END control statement.

Syntax

```
CLEAR
```

Example

```
// JOB RFCLEAR
// EXEC TSIDRFS
END
CLEAR
/*
/&
```

END

Description

END deactivates the Recorder. DSN Catalog activity occurring while the Recorder is off will not be logged.

Syntax

```
END
```

Example

```
// JOB RFOFF
// EXEC TSIDRFS
END
/*
/&
```

MAINT

Description

MAINT performs the regular Recorder maintenance routine in one step. It executes the END, BACKUP, CLEAR, and START commands in order. It also provides essential protection in a multi-CPU environment.

MAINT uses the DTF name RFBKUP to identify the backup dataset.

WARNING!

The Recorder File must be backed up, cleared, and restarted immediately after the DSN Catalog is backed up. If your DSN Catalog and Recorder backups are not synchronized, you will get errors or missing data will result when you do an emergency recovery of the DSN Catalog. So, MAINT should be executed in the same job stream, in the step immediately following, TSIDUTL BACKUP or FASTBU.

Syntax

```
MAINT
```

Example

```
// JOB RFMAINT
// TLBL RFBKUP,'RECORDER.BACKUP'
// EXEC TSIDRFS
MAINT
/*
/&
```

RECORD

Description

RECORD logs user comments in the Recorder File. The control statement must begin with the keyword RECORD. However RECORD does not have to start in column 1. Begin the user comment at least one space following RECORD: it can extend up to and including column 80. For long comments, use multiple RECORD statements.

Syntax

`RECORD` *`user-comment`*

Example

This job logs the comment “IPL CAUSED BY POWER FAILURE".

```
// JOB RFREC
// EXEC TSIDRFS
RECORD IPL CAUSED BY POWER FAILURE
/*
/&
```

START

Description

START activates Recorder logging after it has been deactivated with the END command.

START is required to restart the Recorder even if the RECORD configuration option is specified as YES.

Syntax

```
START
```

Example

```
// JOB RFSTRT
// EXEC TSIDRFS
START
/*
/&
```

Activating and Deactivating QDAS

TSIVON and TSIVOFF

QDAS is activated using the TSIVON program and deactivated using the TSIVOFF program.

Activating QDAS (TSIDON)

TSIVON activates QDAS. It is normally executed in the EPICON procedure, which was created during installation.

TSIVON should be executed during IPL, after assignments are made to the volumes under QDAS control, and after TSIDON and TSIDRFS are executed. QDAS remains active until it is turned off with TSIVOFF or until VSE is IPLed. BIM-EPIC does not have to be active for QDAS to run.

If you reinitialize any of your disk volumes, run TSIVON afterwards. QDAS then recreates its maps.

WARNING!

When QDAS is active on a shared volume in one machine, it must be active for all machines sharing that volume. If you fail to activate QDAS on all machines sharing the volume, you will experience VTOC corruption.

JCL Requirements

```
// EXEC TSIVON
```

Deactivating QDAS (TSIVOFF)

TSIVOFF deactivates QDAS. You can execute this program any time. You do not need to IPL VSE after deactivation.

JCL Requirements

```
// EXEC TSIVOFF
```

BIM-EPIC Dispatcher

Introduction

The BIM-EPIC Dispatcher executes as a "never–ending" program in a VSE/ESA dynamic or static partition. It accepts and processes various BIM-EPIC requests that may be long–running. As work is being done, various subtasks are automatically initiated by the BIM-EPIC Dispatcher. Once a subtask begins, it remains in the BIM-EPIC Dispatcher environment until explicitly ended with an EP ST*name* command or until the BIM-EPIC Dispatcher is ended.

BIM-EPIC must be started before starting the Dispatcher.

When BIM-EPIC is ended with the TSIDOFF program, the Dispatcher will also end as part of OFF processing.

At present the BIM-EPIC Dispatcher is used only in an ACL environment

JCL Requirements

The JCL to initiate the BIM-EPIC Dispatcher is:

```
// JOB TSIDTASK
// SETPFIX LIMIT=100K
// EXEC TSIDTASK,SIZE=TSIDTASK
/&
```

EP Commands

The following Attention Routine commands are available to manage the BIM-EPIC Dispatcher environment:

Command	Action
EP TSTAT	Displays any work requests waiting to be processed by the BIM-EPIC Dispatcher.
EP TRQ CANCEL *n*	Deletes a work request that has not been processed by the BIM-EPIC Dispatcher. *n* is the identification number of the request to be deleted. It is obtained using the EP TSTAT command.
EP END TASK	Ends BIM-EPIC Dispatcher processing
EP END ST*name*	Terminates a BIM-EPIC Dispatcher subtask. *This command should be used only when directed by BIM-EPIC Technical Support.* *name* is the name of the subtask being ended. ACL is a valid subtask name.

Example

The following command ends the ACL support subtask.

```
EP END STACL
```

BIM-EPIC ACL Support

General Requirements

Vendors Supported

BIM-EPIC provides support for Automatic Cartridge Loaders (ACL's) for these vendors:

- IBM
- Memorex
- OPTI-TAPE - Barnard Systems Inc. (BSI)
- STK

A large part of the BIM-EPIC definition and processing requirements are the same for all of these ACL's and are described in this section of the manual. Vendor-unique definition and processing requirements are described in these sections:

- IBM ACL Support Page 5-60
- Memorex ACL Support Page 5-63
- STK ACL Support Page 5-68
- OPTI-TAPE Support Page 5-73

ACL's from more than one vendor can be in the same BIM-EPIC processing environment.

Definition Requirements

The appropriate vendor's ACL support environment must be installed and successfully configured before the ACL can be defined to BIM-EPIC.

The BIM-EPIC Resource Dataset (ERD File) must be defined (described in section "Defining the BIM-EPIC Resource Dataset" on page 2-25).

For IBM, Memorex and STK ACL's the BIM-EPIC Task Dispatcher (described in the section "BIM-EPIC Dispatcher" on page 2-25 must be active before any SCRATCH/RETAIN requests can be sent to the ACL, and before any *EP ACL* command can be issued. Using a POWER PRELEASE command at an appropriate point in the VSE IPL process is one way to ensure that this is always done. The Task Dispatcher is not required if OPTI-TAPE is the only ACL being used.

When a tape dataset is closed, BIM-EPIC always unloads/demounts it from an ACL drive unless BIM-EPIC's "hold assignment at close" option is specified in the dataset's TLBL (8 or H) or DD statement (FREE=END).

Revolving tape datasets cannot be present in an ACL.

The following BIM-EPIC startup configuration options are required. There are some additional unique-to-vendor options that are described in the appropriate vendor ACL support section.

- ACLAUTI=YES|NO (or take the default)
- ACLLIB=*lib.sublib*
- ACLRECS=*nn* (or take the default)
- ACLTIME=*nn* (or take the default)

- ERDFILE=*erdname*
- MSG088=YES

If the ACL is in a VM environment, the BIM-EPIC Autoattach Feature must be installed, and these additional startup configuration options must be specified:

- AUTOATT=YES
- VM=YES

Please refer to the *OPTION CONTROL STATEMENT* portion of this manual for descriptions of these options.

The library and sublibrary used in the ACLLIB *lib.sublib* parameter must exist prior to BIM-EPIC startup.

BIM-EPIC places requests for ACL volume status changes (scratch, retain, eject, inventory …) into members of this sublibrary for use by the BIM-EPIC Task Dispatcher. We recommend that it be reserved/used for ACL support only. And, to make it easier to apply BIM-EPIC upgrades, it should *NOT* be the one used to contain BIM-EPIC members.

Synchronization of BIM-EPIC and ACL Active and Scratch Tape Statuses

For IBM ACLs, BIM EPIC's EP ACL SYNC command is used to reconcile the ACL cartridge status inventory (active or scratch) with the BIM-EPIC DSN. It can be issued from the console at any time. The EP ACL SYNC command is invalid for Memorex, OPTI-TAPE, and STK ACL's since they do not provide an Inventory function.

For all ACLs, whenever a TSIDUTL SCRATCH function is executed, TSIDUTL will automatically start a synchronization process at the end of its processing if the appropriate synchronization control statement is present (SYNCIBM, SYNCMEM, SYNCSTK) as described in the TSIDUTL portion of this manual).

For IBM ACL's, when the EP ACL SYNC command is issued or the SYNCIBM statement is present, BIM-EPIC requests an inventory of all cartridges in the ACL. For each cartridge in the inventory, the ACL-Reported status (*scratch* or *active*) is compared to the status recorded in the BIM-EPIC catalog. If there is a difference, BIM-EPIC changes the status in the ACL to be the same as the status in the EPIC catalog.

Memorex, OPTI-TAPE and STK ACL's do not have an inventory function so no comparison with the BIM-EPIC catalog is possible. When the TSIDUTL SYNCMEM, SYNCOPT or SYNCSTK control statement is present, a SET VOL *nnnnnn* TO SCRATCH STATUS command is sent to the ACL for each volser in the BIM-EPIC Scratch Report.

WARNING!

SYNCOPT should be used with caution, and probably not at all. Refer to the SYNCOPT command for an explanation of why this is so.

Example - IBM

EPIC Catalog Status	Reported ACL Status	New ACL Status
Scratch	Scratch	Not Changed
Scratch	Active	Scratch
Active	Active	Not Changed
Active	Scratch	Active

Tape Pools and ACL's

An *aclname* parameter is available in the TSIDPOL macro when defining BIM-EPIC tape pools.

If the parameter is not used, BIM-EPIC uses this logic when requesting tape mounts:

Output (Scratch):

Requests the ACL to mount a scratch. If the ACL does not have a scratch cartridge for the requested pool, BIM-EPIC AVR's non-ACL drives. If more than one ACL is present, BIM-EPIC will issue the mount request to each ACL before going to non-ACL drives.

Input:

Asks the ACL if *volser nnnnnn* is in its inventory. If it is, a mount request is issued. If it is not, BIM-EPIC AVR's non-ACL drives. If more than one ACL is present in an installation, the vendor's ACL Manager sends the query request to each ACL before returning to EPIC.

If the parameter is used, for an Output tape BIM-EPIC will only query the ACL specified in aclname. If that ACL does not have the requested volume, BIM-EPIC will go to the non-ACL drives for AVRing, bypassing any other ACL's in the installation. The input logic is as described, above.

If *aclname* is used for one pool, it must be used for all ACL-resident pools. When *aclname* is present, BIM-EPIC will not check any other ACL for the output tape.

Ejecting Cartridges from an ACL

Description

Cartridges can be ejected from an ACL on a “one-at-a-time” or a “many-at-a-time” basis. Since cartridge ejection is very time–consuming, we recommend using the “many at a time" method at times when other ACL processing is at a minimum.

Whichever method is used, BIM-EPIC reads the list of volume serial numbers contained in the VSE sublibrary and submits the new status to the ACL.

Many-at-a-Time Methods

When the TSIDVLT utility is executed, the volume serial number of any ACL–resident cartridge that is moved from the main vault (Vault 0) is written to the ACL Inventory Management Library.

Use the EP ACL EJECT command, EP ACL EJECT VAULT=n, or TSIDUTL’s ACLEJECT control statement to eject these cartridges. This technique allows ejections to be scheduled at an appropriate time. Refer to the *User Reference* for a full description of the vaulting process.

One-at-a-Time Method

Use the EP ACL EJECT command (below) to eject the desired cartridge from the ACL. A separate EP ACL EJECT command must be used for each cartridge that is to be ejected.

Status Changes to ACL-Resident Cartridges

Whenever a TSIDMNT command is used to change the DSN Catalog status of cartridges that are resident in an ACL, the cartridge’s volume serial number and new status are written to the VSE Library/Sublibrary designated for ACL use in the BIM-EPIC configuration options. The status change request is not made to the ACL until one of the following occurs:

- The time limit specified in ACLTIME configuration is reached.
- The number of records specified in the ACLRECS configuration option has been reached.
- The EP ACL PROCESS command is issued.

EP Commands

The following EP commands are used in the BIM-EPIC support process for IBM ACLs:

Command	Action
EP ACL EJECT	Causes ejection from the ACL of all cartridges that have been written to the ACL Inventory Management Library by the TSIDVLT program. Can be used in place of the TSIDUTL ACLEJECT control statement. Only valid for IBM, Memorex, and STK ACLs.
EP ACL EJECT VAULT=n	As described in EP ACL EJECT above, TSIDVLT may have placed volser's of cartridges to be ejected from an ACL into the ACL Inventory Management Library. These volser's may be from different vaults. This command will eject only those cartridges that are in VAULT "n".
EP ACL EJECT *volser*	Causes the ejection from the ACL of the cartridge whose serial number is specified in *volser*. Only valid for IBM, Memorex, and STK ACLs.
EP ACL PROCESS	Reads the list of volume serial numbers and status change requests from the VSE sublibrary designated for BIM-EPIC ACL support in the ACLLIB configuration option and posts the new status to the ACL.
EP ACL SYNC	For each IBM ACL in an installation, obtains an inventory of all cartridges in an IBM ACL and does steps 1 through 3. All steps are completed for one IBM ACL before beginning the next IBM ACL. Only valid for IBM ACLs. 1. Obtains an inventory of all cartridges in the ACL. 2. Checks each ACL volume to see if it is in the DSN Catalog. *Result*—If the ACL volume is not in the DSN and the ACLAUTI configuration option is “Y", the tape is initialized with a VOL and HDR records and the serial number is added to the DSN. *Result*—If the ACL volume is not in the DSN Catalog and the ACLAUTI configuration option is “N", no action is taken. 3. If the ACL volume is in the DSN Catalog, its ACL status is compared with its status in the DSN Catalog. *Result*—If the ACL status is not the same as the DSN Catalog status, the ACL status is set to be the same as the DSN Catalog status.
EP ACL SYNC *aclname*	Does the processing described above for a single IBM ACL. *aclname* is the name of the IBM ACL to be processed.

ACL Leveling

When multiple IBM ACL's are used in an installation it may be desirable to equalize (level) the use of cuu's amongst the ACL's as much as possible. This feature is not available for Memorex, OPTI-TAPE, or STK ACLs.

Although possible in any IBM multiple ACL environment, leveling may be most beneficial in a multiple Virtual Tape Server (VTS) ACL environment because of the large number of virtual tapes in a VTS environment.

For each ACL participating in the leveling process, BIM-EPIC will monitor of the number of ACL cuu's that are being used at any point in time for input and output activity.

When EPIC receives an Open Output for an ACL cuu, it will look for the ACL with lowest number of in-use cuu's .

If tape pools are used, the same pool(s) must be defined for each ACL in order for leveling to work properly. An example: ACL 1 has one or more volser range definitions for Scratch Pool C. ACL 2 must also have at least one volser range for Scratch Pool C in order for the leveling process to work. There can be tape pool definitions that are unique to a single ACL, but there must be at least one definition that is common to two or more of the ACL's being leveled.

If an organization wishes to have the leveling process consider only those cuu's that are being used for output instead of all cuu's being used in an ACL, the ACLLVLOO configuration option can be used to accomplish this.

IBM ACL Support

General Requirements

Introduction

In this section, the term ACL refers to the IBM 3494 Tape Library Dataserver and to the IBM Virtual Tape System (VTS). IBM provides two ACL support environments:

- the **LCDD environment** uses the IBM Library Control Device Driver (LCDD) as the ACL Manager for native VSE/ESA or VM/VSE. Not available for VTS.
- the **VGS environment** uses IBM VSE Guest Server (VGS) as the ACL Manager for VM/VSE. IF VGS is not used, LCDD can be used instead.

LCDD Environment

In this environment, the LCDD must be active before any BIM-EPIC support will be effective. Refer to the appropriate IBM documentation for further information.

VGS Environment

A SETPFIX LIMIT=100K,PERM JCL statement must be present in each static and dynamic partition's ASI initialization. This is a requirement of the IBM interface.

The IBM VGS and Inventory servers must be active at the time BIM-EPIC is started. IBM's LIBRCMSV program must be active before any ACL inventory request or cartridge status changes (Scratch, Retain, Delete, Eject...) are made. Refer to the appropriate IBM documentation for more information.

Required Configuration Options

For both support environments, the following BIM-EPIC configuration options are required in addition to those described on page 5-54:

- ACLIBM=YES

For the VGS environment, the following options are also required:

- ACLSRVRI=*VGS-server-name*
- VM=YES

For more information on these options, see the *OPTION CONTROL STATEMENT* portion of this manual.

Library Requirements

In an LCDD environment, the *sublib* portion of the ACLLIB configuration parameter must be the same as the LCDD LUNAME parameter. See the ACLLIB configuration option for more information

For each ACL cartridge drive (cuu) defined in the BIM-EPIC Resource Dataset (ERD), the ACLNAME parameter must be the same as the LCDD LUNAME. See 2-25 in this manual for more information. In a VGS environment the ACLNAME parameter can be any name.

BIM-EPIC Tape Pool Definitions

Introduction

If tape pools are used for cartridges residing in an ACL, they must meet the following criteria:

- Non-ACL-resident cartridges cannot be part of the pool or pools designated for ACL-resident cartridges.
- For VSE/Guest environments, the pool names must be 1-9 or A-F.
- For native VSE environments, the pool names must be 1-9 or A-V.

In both environments, SCRATCH0 is used as the “default scratch" category. If a scratch volume serial number is not in a BIM-EPIC tape pool, it is assigned to SCRATCH0.

When the EP ACL SYNC command is used to reconcile the ACL contents with the DSN Catalog, if a catalog entry for an ACL–resident volume has a BIM-EPIC tape pool ID outside one of these ranges, a console message is displayed asking whether the cartridge is to be ejected from the ACL, or whether EP ACL SYNC processing is to be cancelled.

Memorex ACL Support

General Requirements

Introduction

When BIM-EPIC is running on a VSE Guest machine, support for the Memorex Automatic Tape Library (ATL) is provided using the VM IUCV facility.

The Memorex Library Management Software (LMS) product must be operational as a CMS Guest. Both LMS and the ATL must be active at the time BIM-EPIC is started.

Required Configuration Options

The following BIM-EPIC configuration options are required in addition to those described on page 5-54:

- ACLMEM=YES
- ACLSRVRM=*LMS-server-name*
- VM=YES

For further information, see the *OPTION CONTROL STATEMENT* portion of this manual.

VM Directory Entry Requirements

LMS Server

The VM Directory entry for the LMS server must allow an IUCV connection from the VSE Guest(s) in which BIM-EPIC is executing. This can be done in either of the two ways described below. The first method requires less VM Directory maintenance as VSE Guests are added or deleted in the VM Directory.

Method 1

This method accepts IUCV communications from any virtual machine.

```
IUCV ALLOW MSGLIMIT n
```

n is the maximum number of messages that can be outstanding on any path connected to the server. It should be at least one per VSE partition (including dynamic partitions). If the value is too small, BIM-EPIC requests may be lost.

Method 2

This method accepts IUCV communications only from the *userid* virtual machine.

```
IUCV userid MSGLIMIT n
```

userid must be the name of the VSE guest in which BIM-EPIC is executing. If BIM-EPIC is executing in more than one VSE Guest that requires ATL support, then an IUCV userid entry is required for each VSE Guest.

n is the same as described in the preceding definition.

VSE Guests

Establishing an IUCV Connection

The VM Directory for each VSE Guest must be able to make an IUCV connection to the LMS server. This can be done in either of the two ways described below. Method 1 requires less VM Directory maintenance as VSE Guests are added or deleted.

Method 1

This method can initiate an IUCV connection with any virtual machine.

```
IUCV ANY
```

Method 2

This method can initiate an IUCV communications only to the *userid* virtual machine. *userid* is the id of the LMS Server.

```
IUCV userid
```

What If the IUCV Path is Severed?

Occasionally, the IUCV Path between the VSE Guest and LMS Server machines may be severed. The IUCV path can be re-established after it has been severed. However, every effort should be made to determine the cause of the failure and to correct it.

Some causes of this include:

- cycling the LMS Server machine
- time-out by the LMS Server
- processing errors by one of the IUCV partners

The severed path can be re-established by either of the following:

- Turning BIM-EPIC off and then back on
- Using the BIM-EPIC TSIDDEB utility

Turning BIM-EPIC off and on is the preferred method, but this may not be practical if ongoing VSE processing requires BIM-EPIC services. In such cases, use the TSIDDEB procedure below.

TSIDDEB Procedure

When re-establishing the IUCV path with this method, TSIDDEB must be executed from the VSE operator's console.

Step	Action
1	From a "Pause" job on the VSE Operator's console, enter: // EXEC TSIDDEB A list of selection choices will be displayed.
2	Select "F. RE-ESTABLISH IUCV PATH WITH ACL SERVER" TSIDDEB will respond with "ENTER 'MEMSERVER=servername'"
3	Enter "MEMSERVER=*servername*" where *servername* is name of LMS machine.

BIM-EPIC and LMS Tape Pools

Introduction

BIM-EPIC uses single-character tape pool names (A-Z and 0-9). LMS allows longer pool names which are not recognized by BIM-EPIC. For this reason, each LMS tape pool that is to be used by BIM-EPIC must be defined to LMS as a primary pool using the following format:

`POOL-`*`x`*

where "POOL-" is a constant. *x* is the one-character name of the corresponding BIM-EPIC tape pool.

Examples

BIM-EPIC Tape Pool	LMS Primary Pool
J	POOL-J
R	POOL-R

Synchronizing BIM-EPIC and LMS Scratch Pool Inventories

Memorex LMS does not provide notification of ACL cartridge insertion and ejection. This means that the BIM-EPIC and LMS scratch cartridge inventories are not always synchronized.

To synchronize them, execute the SCRATCH, DSPLY SCRATCH, or TSCRATCH function of the TSIDUTL program. See 6-7 in this manual for further information. The SYNCMEM control must also be present. It is recommended that one of these functions be run at least once a day, or after cartridges have been inserted into the ACL. DSPLY SCRATCH does not enqueue the DSN Catalog, and can be run at any time without affecting other processing. SCRATCH and TSCRATCH enqueue the BIM-EPIC Catalog during the scratch process, but not during the synchronization process.

STK ACL Support

General Requirements

Introduction

When BIM-EPIC is running on a VSE Guest machine, support for the STK ACL is provided using the VM IUCV facility.

The STK Host Software Component (HSC) for VM must be operational as a CMS Guest. Both HSC and the ACL must be active at the time BIM-EPIC is started.

Required Configuration Options

The following BIM-EPIC configuration options are required in addition to those described on page 5-54:

- ACLSTK=YES
- ACLSRVRS=*HSC-server-name*
- VM=YES|NO

For further information, see the *OPTION CONTROL STATEMENT* portion of this manual.

HSC Requirement

To allow BIM-EPIC to Eject cartridges from a Library Storage Module (LSM), the Host Software Component (HSC) DIALOG Option must not be set to OFF. If OFF is the default setting, the HSC command OPTION DIALOG (BOTH) must be issued before using the BIM-EPIC EP ACL EJECT command. The option can be reset to OFF after the ejection process has completed.

VM Directory Entry Requirements

HSC Server

The VM Directory entry for the HSC server must allow an IUCV connection from the VSE Guest(s) in which BIM-EPIC is executing. This can be done in either of the two ways described below. The first method requires less VM Directory maintenance as VSE Guests are added or deleted in the VM Directory.

Method 1

This method accepts IUCV communications from any virtual machine.

```
IUCV ALLOW MSGLIMIT n
```

n is the maximum number of messages that can be outstanding on any path connected to the server. It should be at least one per VSE partition (including dynamic partitions). If the value is too small, BIM-EPIC requests may be lost.

Method 2

This method accepts IUCV communications only from the *userid* virtual machine.

```
IUCV userid MSGLIMIT n
```

userid must be the name of the VSE guest in which BIM-EPIC is executing. If BIM-EPIC is executing in more than one VSE Guest that requires ACL support, then an IUCV userid entry is required for each VSE Guest.

n is the same as described in the preceding definition.

HSC Authorization

Each VSE Guest that will use the ACL must have an AUTHORIZE (CMDS statement in the HSC ACS SYSPROF member.

VSE Guests

Establishing an IUCV Connection

The VM Directory for each VSE Guest must be able to make an IUCV connection to the HSC server. This can be done in either of the two ways described below. Method 1 requires less VM Directory maintenance as VSE Guests are added or deleted.

Method 1

This method can initiate an IUCV connection with any virtual machine.

```
IUCV ANY
```

Method 2

This method can initiate an IUCV communications only to the *userid* virtual machine. *userid* is the id of the HSC Server.

```
IUCV userid
```

What If the IUCV Path is Severed?

Occasionally, the IUCV Path between the VSE Guest and HSC Server machines may be severed. The IUCV path can be re-established after it has been severed. However, every effort should be made to determine the cause of the failure and to correct it.

Some causes of this include:

- cycling the HSC Server machine
- time-out by the HSC Server
- processing errors by one of the IUCV partners

The severed path can be re-established by either of the following:

- Turning BIM-EPIC off and then back on
- Using the BIM-EPIC TSIDDEB utility

Turning BIM-EPIC off and on is the preferred method, but this may not be practical if ongoing VSE processing requires BIM-EPIC services. In such cases, use the TSIDDEB procedure below.

TSIDDEB Procedure

Method 1: VSE Console

Step	Action
1	From a “Pause" job on the VSE Operator’s console, enter: // EXEC TSIDDEB A list of selection choices will be displayed.
2	Select “F. RE-ESTABLISH IUCV PATH WITH ACL SERVER" TSIDDEB will respond with “ENTER 'STKSERVER=servername'"
3	Enter “STKSERVER=*servername*" where *servername* is name of HSC machine.

Method 2: JCL

```
// JOB jobname
// EXEC TSIDDEB
STKSERVER=servername
/*
/&
```

BIM-EPIC and HSC Tape Pools

Introduction

BIM-EPIC uses single-character tape pool names (A-Z and 0-9). HSC allows longer pool names which are not recognized by BIM-EPIC. For this reason, each HSC tape pool that is to be used by BIM-EPIC must be defined to HSC as a pool using the following format:

`EPICTAPEPOL-`*x*

where “EPICTAPEPOL-" is a constant. *x* is the one–character name of the corresponding BIM-EPIC tape pool.

Examples

BIM-EPIC Tape Pool	HSC Pool
J	EPICTAPEPOL-J
R	EPICTAPEPOL-R

Synchronizing BIM-EPIC and HSC Scratch Pool Inventories

STK HSC does not provide notification of ACL cartridge insertion and ejection. This means that the BIM-EPIC and HSC scratch cartridge inventories are not always synchronized.

To synchronize them, execute the SCRATCH, DSPLY SCRATCH, or TSCRATCH function of the TSIDUTL program. See 6-7 in this manual for further information. The SYNCSTK control must also be present. It is recommended that one of these functions be run at least once a day, or after cartridges have been inserted into the ACL. DSPLY SCRATCH does not enqueue the DSN Catalog, and can be run at any time without affecting other processing. SCRATCH and TSCRATCH enqueue the BIM-EPIC Catalog during the scratch process, but not during the synchronization process.

OPTI-TAPE Support

General Requirements

Introduction

Prior to Release 6.3, BIM-EPIC interfaced with the Barnard Systems Inc. OPTI-TAPE virtual tape product through the BIM-EPIC STK interface. BIM-EPIC now has a separate interface for OPTI-TAPE.

Required Configuration Options

The following BIM-EPIC configuration options are required in addition to those described on page 5-54:

- ACLOPT=YES
- ACLSRVRO=OPTITAPE
- If in a VM environment: VM=YES

For further information, see the *OPTION CONTROL STATEMENT* portion of this manual.

Other Requirements

OPTI-TAPE phase BSOTEPIC must be in a VSE sub-library available to the BIM-EPIC startup process. This can be done with a LIBDEF (recommended), or by copying BSOTEPIC to the VSE sub-library containing the BIM-EPIC modules.

6

Additional BIM-EPIC Utilities

This chapter describes additional BIM-EPIC system maintenance utilities.

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Maintaining the DSN Catalog (TSIDUTL)

Introduction

Description

TSIDUTL is a general catalog maintenance utility. It performs functions related to the DSN Catalog as a whole, specifically:

Command	Function
ACLEJECT	Ejects vaulted tape volumes from an ACL
BACKUP and FASTBU	Backs up the DSN Catalog
DSCRATCH	Scratches expired disk datasets only
DSPLY	Displays dataset and version entries
INDEX	Reorganizes the index
PSCRATCH	Reports datasets that will scratch on a specified date
RESTORE and FASTRS	Restores or moves the DSN Catalog
SCRATCH	Scratches all expired datasets
SYNCIBM	After the completion of a SCRATCH or TSCRATCH function, causes an ACL synchronization to be done for all IBM ACLs defined to BIM-EPIC
SYNCMEM	After the completion of a DSPLY SCRATCH function, causes an ACL synchronization to be done for all Memorex ACLs defined to BIM-EPIC
SYNCSTK	After the completion of a DSPLY SCRATCH function, causes an ACL synchronization to be done for all Storage Technology ACLs defined to BIM-EPIC
TSCRATCH	Scratches expired tape datasets only

TSIDUTL can be executed from a batch job or from the operator console. In batch mode, control statements are read from SYSIPT. If it is executed from the console, statements are entered at the console (SYSLOG).

UPSI Values

Only the DSPLY and scratch functions depend on UPSI values. These values are listed in the individual sections describing the functions.

Dataset Requirements

SORTWK1 identifies a work dataset required for the INDEX, RESTORE, SCRATCH, PSCRATCH, TSCRATCH, and the DSPLY SEQ parameters.

BACKUP identifies the DSN Catalog backup for BACKUP and RESTORE.

FASTDS identifies the DSN Catalog backup for FASTBU and FASTRS.

IJSYSDS identifies the DSN Catalog dataset, sometimes required for FASTBU and FASTRS.

WORK identifies a temporary dataset required by the scratch and restore functions (SCRATCH, TSCRATCH, DSCRATCH, PSCRATCH, and RESTORE). Its size is dependent on the number of tape volumes containing OFFLOAD, MCAT, or sub-dataset versions. Allow 50 bytes per volume.

WARNING!

When using the VSE/VSAM Space Management for SAM feature to manage the WORK file required by the RESTORE and SCRATCH functions, an additional consideration is necessary to avoid failures ranging from minor annoyances to partial catalog corruption. See the WORK File and VSE/VSAM Space Management For SAM discussion immediately following.

WORK File and VSE/VSAM Space Management for SAM Feature

When using the VSE/VSAM Space Management for SAM Feature to manage the SAM file (filename WORK) required by the EPIC utility TSIDUTL program for both the RESTORE and SCRATCH functions, an additional consideration is necessary.

This WORK file is used as both output and input to accomplish the requested task and expects only the data written from the current execution to be read back. In the case of the RESTORE function, this file is used as a temporary storage area for data pertaining to each sub-dataset restored to the DSN Catalog. In the case of the SCRATCH function, this file is used as a temporary storage area for data pertaining to the scratching of all multi-dataset tape volume serial numbers.

When this WORK file is specifically allocated to VTOC controlled space using typical DLBL control statements reflecting the SD type of file label code (which is also the default if not specified) and opened for output, standard VSE routines (LIOCS) assure that any previously existing data found in the disk space is physically erased before the new data is actually transferred to the disk device.

The VSE/VSAM Space Management for SAM Feature does not perform in exactly the same manner but rather uses the DISP operand as a basis for many of its decisions. This DISP operand can contain up to three positional keywords to tell VSAM how the dataset is to be opened and disposed of given either normal or abnormal termination. The key difference here is that VSAM ignores the fact that a dataset is being opened for output when the dataset already exists and uses the first DISP keyword to determine if the existing should be erased before new data is entered into the dataset (DISP=NEW) or append new data following the existing data (DISP=OLD). Note that if the dataset is being opened for output and the dataset does not already exist, use of either DISP=NEW or DISP=OLD will give identical results since there is no existing data to be appended.

The problem arises only when a program uses the same DTF name (in this case WORK) for both output and input in a single execution. Under this condition, only the DISP=OLD operand can be specified which says do not erase any existing data but rather append new data behind any old data that may already exist. If DISP=NEW was specified, the initial open for output would automatically erase any existing data but failure would result when the attempt to open the file for input was attempted (DISP=NEW and open for input are incompatible and

therefore not allowed by VSE). If the normal termination disposition keyword of DELETE was specified in place of the default of KEEP, the file would be erased when it was closed for output and we would fail when we attempted to open the file for input since it would no longer exist.

There are a couple of solutions to this dichotomy. If unique dataset names without any partition or partition/processor independence specifications (i.e., dataset name not prefixed by % or %%) are used, merely supply an IDCAMS step to delete the file from the VSAM catalog just prior to its use.

If your requirements dictate that partition or partition/processor independence dataset name(s) be used, insert a job step similar to the following example just prior to the use of the dataset which will erase any data that may already exist:

```
// DLBL IJSYSUC,'your.vsam.user.catalog',,VSAM
// DLBL ERASE,'%%your.vsam.esds.sam.file',,VSAM,          *
                DISP=(OLD,DELETE),RECORDS=(500,250),      *
                RECSIZE=50
// EXEC IDCAMS,SIZE=AUTO
 REPRO IFILE (SYSIPT ENV(BLKSZ(80) RECFM(F))) -
       OFILE (ERASE ENV(BLKSZ(50) RECFM(F)))
/*
```

Note the DISP operand on the DLBL control statement for ERASE. A DISP=(OLD,DELETE) tells VSAM to allocate space if the file does not already exist and, most importantly, to delete the file when it is closed. Now, no matter if the file previously existed or not, it will be erased when the job step completes. (The IDCAMS control statements accomplish nothing beyond opening and closing the dataset since the '/*' indicates that no SYSIPT data has been presented.)

Control Statements and Examples

TSIDUTL functions are dictated by control statements. You may specify as many functions per execution as you wish. Individual control statements and TSIDUTL examples are presented in the following sections.

ACLEJECT

Description

ACLEJECT ejects vaulted tape cartridges from an Automated Cartridge Library. It identifies vaulted cartridges by reading the ACL Inventory Management Library maintained by BIM-EPIC Dispatcher.

Syntax

```
ACLEJECT
```

UPSI Values

None

Dataset Requirements

None

Example

This execution ejects vaulted cartridges from an ACL.

```
// JOB ACLEJECT
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXTENT SYS001
// DLBL WORK,'$$$.SCRATCH.WORK,(D)'
// EXEC TSIDUTL
ACLEJECT
/*
/&
```

BACKUP

Description

BACKUP performs a logical record backup of the DSN Catalog. DSN Catalog access is denied to other jobs while BACKUP is running. BACKUP tests record pointers to ensure catalog integrity. If any errors are detected, a diagnostic report is produced.

After BACKUP is run, we recommend backing up and clearing the Recorder File. For increased security, perform the two backups on separate tapes.

Catalogs backed up with the BACKUP function can only be restored with RESTORE. RESTORE can be used to create a DSN Catalog with a different size and location.

See RESTORE

Syntax

```
BACKUP
```

UPSI Values

None

Dataset Requirements

No label information for the DSN Catalog is needed. BACKUP accesses the currently active catalog (the one that was opened when BIM-EPIC was started).

The backup dataset can be a controlled dataset, but it must be available even when BIM-EPIC is not running, so be sure to manually record the volume serial number on which the backup is written. A TLBL or DD statement for BACKUP is required.

WARNING!

The backup dataset must not be reblocked. A reblocked backup dataset cannot be used to restore the DSN Catalog.

Example

This example produces a backup on tape.

```
// JOB  BACKUP DSN CATALOG
// TLBL BACKUP,'DSN.CATALOG.BKUP'
// EXEC TSIDUTL
BACKUP
/*
/&
```

DSPLY and BDSPLY

Description

DSPLY produces reports listing all datasets or groups of datasets in the DSN Catalog. In most cases, a full report of each dataset's catalog entry is produced, with the BIM-EPIC dataset definition (EDD) highlighted for readability.

If a Memorex or STK ACL is in use, DSPLY SCRATCH is used to synchronize the BIM-EPIC and the ACL scratch pool inventories. Refer to 5-67 for further information.

BDSPLY produces reports listing all datasets or groups of datasets in a DSN Catalog backup dataset created by TSIDUTL BACKUP. BDSPLY runs faster than DSPLY because it processes an image of the DSN Catalog, thus eliminating catalog contention.

For report examples, see "TSIDUTL Report Examples" in the *User Reference*.

UPSI Values

UPSI 1xxxxxxx prints dates in European format (DD/MM/YY).

UPSI x1xxxxxx suppresses EDD highlighting.

UPSI xxx1xxxx suppresses DSN Catalog update for the NEW subparameter.

UPSI xxxx1xxx bypasses CMS archive files.

Dataset Requirements

If the SEQ parameter is used, SORTWK1 is required. If BDSPLY is used, DSPWORK is required. DSPWORK can be any backup tape created by the BACKUP function (FASTBU tapes are not allowed).

Syntax

```
DSPLY dataset-qualifier [,report-qualifier]
        [,SEQ=sort-sequence]

BDSPLY dataset-qualifier [,report-qualifier]
        [,SEQ=sort-sequence]
```

dataset-qualifier is required. It must be one of the following:

Qualifier	Causes printing of...
ACTIVE	Active datasets only
ALL	All datasets in the DSN Catalog
DISK	Disk datasets only
DSN='*dataset-name*' (DSPLY only)	*dataset-name* (not valid with BDSPLY)
NEW (DSPLY only)	Dataset versions created since the last time a DSPLY NEW report was run. NEW can be used to track the datasets created within a given period of time. The DSN Catalog is updated so that NEW reports only new versions the next time it is run. To bypass this update and continue accumulation of new versions for a future report, execute TSIDUTL with UPSI xxx1x. Not valid with BDSPLY.
PULL	The latest version of all datasets
PULL,DSN='dataset-name' (DSPLY only)	The latest version of *dataset-name* (not valid with BDSPLY)
SCRATCH	Scratch tapes only
TAPE	Tape datasets only
TAPEPOOL	Tapes in each tape pool. Page breaks occur between tape pools.
VAULT	Only tapes stored in offsite vaults.

report-qualifier is optional. If used, it must be one of the following:

Qualifier	Causes printing of...
OWNER=*oid*	Only datasets with the specified Owner ID
SYSID=*sid*	Only datasets with the specified System ID
TPL=*tapepool*	Only tapes within *tapepool*
USERID=*uid*	Only datasets with the specified User ID
VLT=*vault*	Only datasets stored in *vault*

SEQ is optional. If it is not used, datasets are printed in the order in which they occur in the index. If SEQ is used, it must be the last parameter on the statement. *sort-sequence* must be one of the following:

Qualifier	Sorts by...
CDATE	Creation date
CJOB	Creation job name
DSN	Dataset name
ERROR	Total errors
SERIAL	Tape volume serial number
TAPEPOOL	Tape pool ID
VAULT	Vault and slot number. A page break occurs between vault values.
XDATE	Expiration date

Examples

The following job produces a report listing all datasets belonging to the system ID ***TS*** and the user ID ***MR***. They are listed in the order in which they are found in the index.

```
// JOB DISPLAY DSN CATALOG
// EXEC TSIDUTL
DSPLY ALL,SYSID=TS,USERID=MR
/*
/&
```

The following job produce a report listing all vaulted tapes from a backup tape created two cycles ago. Within each vault number, tapes are listed in dataset name sequence.

```
// JOB DISPLAY DSN CATALOG
// ASSGN SYS001,DISK,SHR
// DLBL SORTWK1,'===.SORTWK1,(X)'
// EXTENT SYS001
// TLBL DSPWORK,'DSN.CATALOG.BACKUP',,,,,3,2
// EXEC TSIDUTL
BDSPLY VAULT,SEQ=DSN
/*
/&
```

FASTBU

Description

FASTBU performs a physical backup of the DSN Catalog. DSN Catalog access is denied to other jobs while FASTBU is running. Because FASTBU does not check record pointers, it should be used for problem determination only. Use the BACKUP function for daily backups.

To restore a catalog backed up with FASTBU, use FASTRS. FASTRS can be used to change the location of the DSN Catalog, but not its size.

See FASTRS

Syntax

```
FASTBU
```

UPSI Values

None

Dataset Requirements

A DLBL, fully qualified EXTENT, and ASSGN statements or a DD statement is required for the DSN Catalog using the filename *IJSYSDS*.

The backup dataset can be a controlled dataset, but it must be available even when BIM-EPIC is not running, so be sure to manually record the volume serial number on which the backup is written. A TLBL or DD statement for FASTDS is required.

WARNING!

The backup dataset must not be reblocked. A reblocked backup dataset cannot be used to restore the DSN Catalog.

Example

```
// JOB FAST BACKUP OF DSN Catalog
// TLBL FASTDS,'DSN.CATALOG.BKUP'
// DLBL IJSYSDS,’EPIC.VSE.CATALOG’,2099/366
// EXTENT SYS240,TSI150,1,0,3750,63
// ASSGN SYS240,DISK,VOL=TSI150,SHR
// EXEC TSIDUTL
FASTBU
/*
/&
```

FASTRS

Description

FASTRS restores the DSN Catalog from a dataset created with FASTBU. FASTRS does not repair errors or reorganize the DSN Catalog. FASTRS can be used to change the location of the catalog, but not its size.

If the catalog was backed up with the BACKUP function, the RESTORE function must be used instead of FASTRS. See 4-8 for complete restore procedures in an emergency situation.

See FASTBU

Syntax

FASTRS

WARNING!

When running FASTRS, no other job or CPU should access the DSN Catalog.

UPSI Values

None

Dataset Requirements

A DLBL, fully qualified EXTENT, and ASSGN statements or a DD statement is required for the DSN Catalog using the filename *IJSYSDS*. This can be located in Standard Labels, or in the Job Stream.

Example

```
// JOB RESTORE DSN CATALOG FROM FAST BACKUP
// DLBL IJSYSDS,'EPIC.VSE.CATALOG',2099/366
// EXTENT SYS240,TSI150,1,0,3750,63
// TLBL FASTDS,'DSN.CATALOG.BKUP'
// EXEC TSIDUTL
FASTRS
/*
/&
```

INDEX

Description

INDEX reorganizes the index component of the DSN Catalog. Reorganization improves performance when accessing the DSN Catalog and provides better sorting for reports that have no sequence parameters (for instance, reports produced by TSIDMNT).

We recommend executing the INDEX function if a significant number of new datasets or tapes have been added to, or deleted from, the DSN Catalog. Normally, running BIM-EPIC with a stable DSN Catalog does not require an INDEX execution.

Syntax

```
INDEX
```

UPSI Values

None

Dataset Requirements

SORTWK1 is required. It must be either a Start Track 1 or uncontrolled dataset.

Example

```
// JOB INDEX DSN CATALOG
// DLBL SORTWK1,'===.SORTWK1,(D)'
// EXTENT SYS001,SYSWK1,1,0,1,15
// EXEC TSIDUTL
INDEX
/*
/&
```

RESTORE

Description

RESTORE restores and reorganizes the DSN Catalog from a backup dataset created using TSIDUTL BACKUP. RESTORE can be used to create a DSN Catalog with a different size and location. See 4-8 for complete restore procedures in an emergency situation.

See BACKUP.

WARNING!

When running a RESTORE, no other job or CPU should access the DSN Catalog. Do not attempt to back up and restore the DSN Catalog in the same TSIDUTL execution.

Syntax

```
RESTORE
```

UPSI Values

None

Dataset Requirements

SORTWK1 is required. SORTWK1 must be specified as either Start Track 1 or uncontrolled. SORTWK1 must be large enough to contain a 50-byte record for every dataset name and volume serial number in the DSN Catalog.

BACKUP is required. Its tape volume serial number or disk location must be identified.

WORK is required. WORK must be specified as either Start Track 1 or uncontrolled. WORK must be large enough to contain an 50-byte record for each subdataset (NSU) in the DSN Catalog. For tape-only systems, if a VSAM/SAM dataset is used for the WORK dataset, specify RECSIZE=50.

Example

```
// JOB  RESTORE DSN CATALOG
// ASSGN SYS001,DISK,VOL=SYSWK1,SHR
// ASSGN SYS002,DISK,VOL=SYSWK2,SHR
// DLBL SORTWK1,'===.SORTWK1,(X)'
// EXTENT SYS001,SYSWK1,1,0,1,300
// DLBL WORK,'===.RESTORE.WORK,(X)'
// EXTENT SYS002,SYSWK2,1,0,1,15
// TLBL BACKUP,'DSN.CATALOG.BKUP'
// EXEC TSIDUTL
RESTORE
/*
/&
```

VSAM WORK Dataset Example

```
// DLBL WORK,'%WORK',,VSAM,CAT=VSESPUC,DISP=OLD,                    X
       RECORDS=(500,250),RECSIZE=50
```

Please see discussion on WORK File and VSE/VSAM Space Management for SAM Feature on page 6-3

Scratch Functions

Description

BIM-EPIC does not automatically scratch datasets. When a dataset version has satisfied all its retention criteria, it becomes *eligible* for scratch. For information about scratch eligibility, see "Rules for Dataset Retention" in the *User Reference*.

Running a scratch through the entire catalog may not always be suitable, and there are alternatives. If you wish to scratch a single dataset only, use the SCRATCH function of TSIDMNT. If you want a list of current scratch tapes, you can use the DSPLY SCRATCH function of TSIDUTL.

BIM-EPIC can now scratch backup/archive datasets created by CA-EPIC for CMS. CA-EPIC for CMS is responsible for placing then in scratch status.

TSIDUTL Scratch Functions

Function	Action
SCRATCH	Puts all eligible dataset versions in scratch status and produces a report of all new scratch tapes.
DSCRATCH	Scratches disk datasets only.
TSCRATCH	Scratches tape datasets only and produces a report of all new scratch tapes.
PSCRATCH	Produces a report projecting which datasets and tapes will be scratched by any date you specify. PSCRATCH does not project the expiration of disk datasets.

If Automatic Cartridge Libraries (ACL) are being supported, SCRATCH and TSCRATCH will set scratched tape volumes to "scratched" status in the ACL inventory.

UPSI Values

Switch	Action
UPSI xx1xxxxx	Prevents scratch of open datasets.
UPSI xxxxx1xx	Prevents scratch of any dataset created today.

Dataset Requirements

SORTWK1 is required. SORTWK1 must be large enough to contain a 300-byte record for every tape volume serial number to be scratched or projected as scratch.

WORK is required. WORK must be large enough to contain an 50-byte record for every multi-dataset tape volume serial number to be scratched or projected as scratch. For tape-only systems, if a VSAM/SAM dataset is used for the WORK dataset, specify RECSIZE=50.

Syntax

```
SCRATCH  [ SYSID=xx ][ ,USERID=yy ][ ,CPUID=z ][ ,TIME ][ ,NOTFND ]
         [ ,THLDOPEN=nn ][ ,DHLDOPEN=nn ][ ,APURG=nnn ][ ,SCRCMS]
         [ ,DLAHOLD=nn ]

DSCRATCH  [ SYSID=xx ][ ,USERID=yy ][ ,CPUID=z ][ ,TIME ][ ,NOTFND ]
          [ ,DHLDOPEN=nn ][ ,DLAHOLD=nn ]

TSCRATCH  [ SYSID=xx ][ ,USERID=yy ][ ,CPUID=z ][ ,TIME ]
          [ ,DLAHOLD=nn ][ ,THLDOPEN=nn ]

PSCRATCH  yyyyddd [ ,SYSID=xx ][ ,USERID=yy ][ ,CPUID=z ]
```

Parameters

APURG deletes BIM-EPIC dataset definitions (EDDs) that do not have any versions associated with them, if no versions of those datasets have been processed in the last nnn days. If you do not use the APURG parameter, these definitions remain in the DSN Catalog. TSIDUTL lists the deleted EDDs in the Scratch Report.

CPUID limits the selection to versions belonging to the single digit CPU specified in the CPUID startup configuration option.

DHLDOPEN and THLDOPEN determine the number of days to hold (retain) datasets in open status. Specify the number of days after their creation date you want open datasets to be retained. DHLDOPEN applies to disk datasets. THLDOPEN applies to tape datasets.

DLAHOLD specifies the minimum number of days that must have passed since the date of last access before a version will be considered available for scratching. The larger of the DLA value from the EDD of a version or the DLAHOLD operand value will be used to determine minimum retention.

NOTFND (valid with SCRATCH and DSCRATCH only) removes disk versions from the DSN Catalog even if their VTOC entries have already been erased or if the disk volume is not mounted. A warning message will be issued for each version affected.

SCRCMS allows scratching of tapes used for CA-EPIC for CMS backup/archive files. Using this parameter creates an EDD named '*EPIC/CMS.SCRATCH.DSN*' and adds a version for every CA-EPIC for CMS tape scratched. This information will be used to clean up the CMS minidisk area used for backup information.

SYSID limits the execution to datasets belonging to the specified system ID.

TIME forces a minimum retention of 24 hours for all generation datasets.

USERID limits the execution to datasets belonging to the specified user ID.

yyyyddd (or yyddd) is the julian date for which PSCRATCH projects which datasets and tape volumes will be scratched.

Examples

The following example scratches eligible datasets with the TR user ID. Disk versions will be protected from scratching for 1 day after their creation dates.

```
// JOB DISPLAY DSN CATALOG
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXTENT SYS001
// DLBL WORK,'$$$.SCRATCH.WORK,(D)'
// EXEC TSIDUTL
SCRATCH,USERID=TR,DHLDOPEN=1
/*
/&
```

The following example prints a report of all datasets eligible to be scratched on January 1, 2000.

```
// JOB DISPLAY DSN CATALOG
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXTENT SYS001
// DLBL WORK,'$$$.SCRATCH.WORK,(D)'
// EXEC TSIDUTL
PSCRATCH 2000001
/*
/&
```

VSAM WORK Example

```
// DLBL WORK,'%WORK',,VSAM,CAT=VSESPUC,DISP=OLD,                    X
        RECORDS=(500,250),RECSIZE=50
```

Please see discussion on WORK File and VSE/VSAM Space Management for SAM Feature on page 6-3

SYNCIBM

Description

After the completion of a SCRATCH or TSCRATCH function., SYNCIBM causes an ACL synchronization to be automatically done for all IBM ACL's defined to BIM-EPIC.

When used, it must precede the SCRATCH or TSCRATCH function statement in the job stream.

If it is not present, an automatic ACL synchronization is not done. The EP ACL SYNC command can be entered from the Operator Console to synchronize one or all ACL's.

Syntax

```
SYNCIBM
```

UPSI Values

None

Example

```
// JOB SCRATCH
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXTENT SYS001
// DLBL WORK,'$$$.SCRATCH.WORK,(D)'
// EXEC TSIDUTL
SYNCIBM
SCRATCH
/&
```

SYNCMEM

Description

After the completion of a TSIDUTL SCRATCH, TSCRATCH or DSPLY function., SYNCMEM causes an ACL synchronization to be automatically done for all Memorex ACL's defined to BIM-EPIC.

When used, it must precede the SCRATCH or TSCRATCH function statement in the job stream.

If it is not present, an automatic ACL synchronization is not done. The EP ACL SYNC command cannot be used for Memorex ACL's.

Syntax

```
SYNCMEM
```

UPSI Values

None

Example

```
// JOB SCRATCH
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXTENT SYS001
// DLBL WORK,'$$$.SCRATCH.WORK,(D)'
// EXEC TSIDUTL
SYNCMEM
DSPLY SCRATCH,SEQ=SERIAL
/&
```

SYNCOPT

Description

After the completion of a TSIDUTL SCRATCH, TSCRATCH or DSPLY function., SYNCOPT causes an ACL synchronization to be automatically done for OPTI-TAPE ACL defined to BIM-EPIC.

When used, it must precede the SCRATCH, TSCRATCH, or DSPLY function statement in the job stream.

If it is not present, an automatic ACL synchronization is not done.

The EP ACL SYNC command cannot be used for an OPTI-TAPE ACL.

SYNCOPT should be used with caution, and probably not at all. There should never be a need to run a SYNCOPT to synchronize OPTI-TAPE and BIM-EPIC inventories, because the normal EPIC SCRATCH runs will always tell OPTI-TAPE which volumes are to be scratched.

For real ACLs, an out-of-synchronization inventory condition occurs because an operator removes tape cartridges from the ACL and BIM-EPIC will not be aware of the removal. Since OPTI-TAPE is a virtual ACL, volumes cannot be removed. When a SCRATCH VOLUME nnnnnn command is received from BIM-EPIC, OPTI-TAPE deletes the VSAM file that contains the data for the virtual tape volume. There may be a lag between the time the SYNCOPT process begins and the time the SET VOL nnnnnn TO SCRATCH STATUS command is received. The BIM-EPIC catalog may have already had the volume in scratch status, and during the time lag, the volume could have been used for data. When the SET VOL SCRATCH command is received, OPTI-TAPE will delete the just-written data and it will be lost.

Syntax

```
SYNCOPT
```

UPSI Values

None

Example

```
// JOB SCRATCH
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXTENT SYS001
// DLBL WORK,'$$$.SCRATCH.WORK,(D)'
// EXEC TSIDUTL
SYNCOPT
DSPLY SCRATCH,SEQ=SERIAL
/&
```

SYNCSTK

Description

After the completion of a TSIDUTL SCRATCH, TSCRATCH or DSPLY function., SYNCSTK causes an ACL synchronization to be automatically done for all Storage Technology ACL's defined to BIM-EPIC.

When used, it must precede the SCRATCH or TSCRATCH function statement in the job stream.

If it is not present, an automatic ACL synchronization is not done. The EP ACL SYNC command cannot be used for Storage Technology ACL's.

Syntax

```
SYNCSTK
```

UPSI Values

None

Example

```
// JOB SCRATCH
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXTENT SYS001
// DLBL WORK,'$$$.SCRATCH.WORK,(D)'
// EXEC TSIDUTL
SYNCSTK
DSPLY SCRATCH,SEQ=SERIAL
/&
```

Formatting the DSN Catalog and Recorder File (TSIDCDK)

Introduction

Description

TSIDCDK creates and formats the DSN Catalog and the Recorder File. Only one of these files is formatted per execution. See the EPICCKD.Z sample JCL in the BIM-EPIC installation library.

UPSI Values

None

Dataset Requirements

IJSYSDS identifies the DSN Catalog. The DSNAME configuration option does not affect this DTF name. If the DSN Catalog is to reside on an FBA device, specify CISIZE=4096.

IJSYSDR identifies the Recorder File. You may use the REC control statement to change this DTF name if necessary. If the Recorder File is to reside on an FBA device, specify CISIZE=2048.

See 2-17 for complete dataset requirements and recommendations.

Control Statements

You may specify only one control statement per execution. CAT creates the DSN Catalog. BCAT creates a DSN Catalog with a Master Index. A DSN Catalog created with BCAT is incompatible with BIM-EPIC systems that are earlier than Release 4.1. REC creates the Recorder File.

Syntax

`CAT [=`*`dtfname`*`]`

`BCAT [=`*`dtfname`*`]`

`REC=IJSYSDR`

`dtfname` indicates the DTF name of the DSN Catalog. This parameter must match the value on the DSNAME configuration option. The default is IJSYSDS. The Recorder File DTF name must be IJSYSDR.

CKD Example

```
*             CREATE BIM-EPIC DSN CATALOG
// ASSGN SYS240,150
// DLBL IJSYSDS,'EPIC.VSE.CATALOG',2099/366
// EXTENT SYS240,TSI150,1,0,3750,63
// EXEC TSIDCDK
 CAT=IJSYSDS
/*
*             CREATE BIM-EPIC RECORDER
// ASSGN SYS241,155
// DLBL IJSYSDR,'EPIC.VSE.RECORDER',2099/366
// EXTENT SYS241,TSI155,1,0,3900,81
// EXEC TSIDCDK
 REC=IJSYSDR
/*
```

FBA Example

```
// ASSGN SYS240,150
// DLBL IJSYSDS,'EPIC.VSE.CATALOG',2099/366,,CISIZE=4096
// EXTENT SYS240,TSI150,1,0,5700,1024
// EXEC TSIDCDK
 CAT=IJSYSDS
/*
// ASSGN SYS241,155
// DLBL IJSYSDR,'EPIC.VSE.RECORDER',2099/366,,CISIZE=2048
// EXTENT SYS241,TSI155,1,0,5700,1024
// EXEC TSIDCDK
 REC=IJSYSDR
/*
```

Rebuilding the DSN Catalog in an Emergency (TSIDBLD)

The TSIDBLD Program

Description

TSIDBLD uses the Recorder File backup dataset to rebuild the DSN Catalog in the emergency recovery procedure. It updates the new DSN Catalog with activity that occurred since the last DSN Catalog backup.

Do not execute TSIDBLD from the VSE operator console.

See 4-8 for complete recovery procedures.

JCL Requirements

```
// UPSI xxx
// TLBL VSEBKUP,'VSE.recorder.backup'
// TLBL CMSBKUP,'CMS.recorder.backup'
// ASSGN SYS005,cuu    (VSEBKUP)
// ASSGN SYS006,cuu    (CMSBKUP)
// EXEC TSIDBLD
```

UPSI Values

Switch	Action
1x	Use VSEBKUP as input
x1	Use CMSBKUP as input

Dataset Requirements

VSEBKUP identifies the VSE Recorder File backup dataset.

CMSBKUP identifies the CMS Recorder File backup dataset.

Example

```
// UPSI 100             VSE Recorder File only
// UPSI 110             VSE and CMS Recorder Files
```

Reconfiguring BIM-EPIC Dynamically (TSIDDEB)

Introduction

Description

The TSIDDEB utility performs the following functions:

- Reporting on the operating environment
- Deactivating and reactivating BIM-EPIC by partition and by job
- Changing configuration option settings

TSIDDEB can be executed from the operator console or in a batch job. The TSIDDEB Summary Report provides a comprehensive view of the operating environment.

JCL Requirements

```
// EXEC TSIDDEB
control-statements
/*
```

Reporting Capabilities

Description

TSIDDEB can produce the following reports:

- Summary Report
- Module dump
- Dump of a DSN Catalog entry
- Dump of entire DSN Catalog
- Dump VSE Label Cylinder contents for one or more DLBL/TLBL's

The Summary Report provides a review of BIM-EPIC configuration options and miscellaneous information about the operating environment.

All output is directed to SYSLST. Tape output may be created by assigning SYSLST to an unlabeled tape before executing TSIDDEB.

Control Statements

Reports must be specifically requested using one of the following:

SUMMARY=YES requests a Summary Report. BIM-EPIC Technical Support requires this report for service purposes.

MODS=*module* requests a dump. MODS=ALL requests a dump of all modules. MODS=TSIDRVA dumps only the TSIDRVA module.

DSN=*dataset-name* prints the DSN Catalog records of one dataset entry.

DSN=ALL prints all DSN Catalog records.

DSN=*JOBQ* prints the JOBQ for the partition.

LBL=fname prints the Label Cylinder data for the 1-7 character file name of a DLBL/TLBL in character and hexadecimal format.

LBLT=fname Same as LBL, but prints the output in 70 character lines for easier viewing on a display terminal.

Deactivating and Reactivating BIM-EPIC by Partition

Description

TSIDDEB deactivates and reactivates BIM-EPIC by partition. It can also be used if it is necessary to turn BIM-EPIC off to run a job. BIM-EPIC must be reactivated when the job is finished.

EPICOFF deactivates BIM-EPIC in a partition. *xx* specifies the partition ID. If you don't specify a partition ID, BIM-EPIC is deactivated in the partition in which TSIDDEB is run. For dynamic partitions, do not include the partition ID. Deactivation in dynamic partitions is effective only until end of job.

EPICON activates BIM-EPIC in a partition. *xx* specifies the partition ID. If you don't specify a partition name, BIM-EPIC is activated in the partition in which TSIDDEB is run. For dynamic partitions, do not include the partition ID.

Syntax

```
OPTION  EPICOFF=xx

OPTION  EPICON=xx
```

Examples

The following example deactivates BIM-EPIC in the BG partition.

```
// EXEC TSIDDEB
OPTION EPICOFF=BG
/*
```

The following example activates BIM-EPIC in the partition in which TSIDDEB is run.

```
// EXEC TSIDDEB
OPTION EPICON
/*
```

Overriding Configuration Options

Description

TSIDDEB can be used to override many configuration options when BIM-EPIC is active. These overrides are active until BIM-EPIC is restarted, or until they are reset by another execution of TSIDDEB.

Options That TSIDDEB Cannot Modify

The following configuration options cannot be overridden by TSIDDEB. They can be redefined by modifying the option values in the ASI procedure and restarting BIM-EPIC.

Option	Description
ACLIBM	IBM ACL Tape Library Dataserver support
ACLMEM	Memorex ACL support
ACLOPT	OPTI-TAPE ACL Support
ACLSRVRx	Vendor ACL Server Name
ACLSTK	STK ACL support
DISKALL	Disk control
DSNAME	DSN Catalog dataset name
ERDFILE	ERD DTF name
JOBACCT	Job accounting activation
JQNAME	JOBQ dataset name
PASSWD	Password protection
SLASIZE	Label interface table size
TAPE	Tape control
TAPPOL	Tape pool dataset name
VM	VM support

Control Statements

If you are executing TSIDDEB in a batch job, you must include the word OPTION followed by at least one blank. You can specify more than one configuration option per statement, up to column 72. Separate multiple configuration options by commas. You can use any number of control statements in a single execution.

If you are executing TSIDDEB from the operator console, you only need to enter the configuration option (for example, ACCEPT=NO instead of OPTION ACCEPT=NO). You may enter as many options as you wish at this time. Enter a null response (EOB on an empty line) to stop entering overrides.

Example

```
// JOB OPTION OVERRIDES
// EXEC TSIDDEB
OPTION ACCEPT=YES
OPTION TAPLUB=NO,AUTOSTP=YES,CANMSG=YES
/*
/&
```

Using the Operator Console

Description

When TSIDDEB is executed from the operator console, the following menu is displayed:

```
***** TSIDDEB DEBUGGING UTILITY OPTION MENU *****
      A. SUMMARY REPORT
      E. MODULE DUMPS
      C. DSN CATALOG DUMP
      D. MODIFY PROCESSING OPTIONS
      E. ERD SHARE FILE OPTIONS
      F. RE-ESTABLISH IUCV PATH WITH ACL SERVER
ENTER LETTER OF REQUIRED OPTION OR (EOB) TO END
```

TSIDDEB Options

TSIDDEB requires a single-character response to activate processing. Processing options are described in the following table:

Option	Action
A	Produces the Summary Report on SYSLST
B	Produces a module dump on SYSLST. Includes submenus.
C	Produces a dump of one or all DSN Catalog entries on SYSLST. Includes submenus.
D	Allows dynamic modification of configuration options
E	Allows printing of ERD options on SYSLST. Includes submenus.
F	Allows re-establishment of the IUCV Path between BIM-EPIC and an ACL server. See 5-65.

When TSIDDEB is executed in a batch job, BIM-EPIC automatically prints only the first page of the TSIDDEB Summary Report. When TSIDDEB is executed from the operator console, the Summary Report must be requested specifically.

Printing the Summary Report

Description

The TSIDDEB Summary Report displays information about the operating environment.

Report Page 1

The first page of the Summary Report displays the current status of the operating environment in the following three areas:

Page 1 Area	Description
A. Processing Options	Available options and current settings
B. General Specifications	BIM-EPIC general environment and module addresses. Also PTFs and Special Options in effect.
C. System Dataset Specifications	Characteristics of BIM-EPIC system datasets that are active.
D. ACL Support Specifications	Characteristics and settings for BIM-EPIC ACL support.
PTF History	The last 3 digits of each BIM-EPIC APAR applied.
Special Options in Effect:	Identifies each special configuration option that is active.

Report Page 1

```
TSIDDEB= 6.3                                E P I C   S U M M A R Y   R E P O R T                                PAGE #      1
TIME   8:37:16                                                                                                   DATE 05/18/1998

 A.  PROCESSING OPTIONS:

     ACCEPT  = YES            AUTSTPN =     3         DEFTPL  =               JOBACCT = YES           RMNTPRT = NO
     ACLAUTI = NO             AUTSTPNO=     0         DEFWPOL =               JQNAME  = IJSYSJQ       SHARE   = NO
     ACLIBM  = NO             AUTSTPT =     5         DISKALL = YES           JQWARN  =     0         SLASIZE =   300
     ACLLIB  = EPTEST  (LIB)  AUTSTPTO=     0         DSKLUB  =   100         JQWMSG  =     0         STRTRK  =     1
     ACLLIB  = VGS3494 (SLIB) BYPEXT  = NO            DSKRET  =     7         MINDEX  = NO            TAPCUU  = F00
     ACLMEM  = NO             CANMSG  = NO            DSNAME  = IJSYSDS       MINRET  =     7         TAPE    = YES
     ACLRECS =    50          CATRT1  = NO            DSNWARN =   200         MODE    = D0            TAPLUB  =    10
     ACLSRVR =                CKDFACT =    30         DSNWMSG =    10         MSG088  = YES           TAPPOL  = TAPOLA
     ACLSTK  = NO             CMSTAPE = NO            ERDFILE = IJSYSSP       MULTCPU = YES           TSTJOB  =
     ACLTIME =    50          CNTRL   = NO            EURODAT = NO            NCATDSK = NO            UNCDSK  = YES
     ALLMALL = YES            CPUIDS  = 2             FBAFACT =     0         NOGVIS  = CANCEL        UNCTAP  = YES
     ALLMSG  = YES            CWDSPOL =               FRAG    = NO            ONLREWCD= RUN           UNCTL   = NO
     ALTMSGS = NO             CYCL    =     3         GDI     = YES           PREFIX  = EP            UNLABEL = NO
     AUTOATT = NO             DDERR   = IGNORE        GDIUR   = YES           PURBYP  = NO            UNLOAD  = NO
     AUTOCAT = NO   (TAPE)    DDGEN   = YES           JCLAC   = YES           RECORD  = YES           VGSFTAPE= YES
     AUTOCAT = NO   (DISK)    DEBUG   = NO            JCLLANG = YES           RECSHR  = YES           VM      =   111
     AUTOLOG = NO   (TAPE)    DEFEXT  =      0        JCLOPT  = YES           RERUN   = YES           VSAM    = NO
     AUTOSTP = YES            DEFPOL  =               JCLOVRDE= NO            RETEN   =     7


  B. GENERAL SPECIFICATIONS:                    C. SYSTEM DATASET SPECIFICATIONS:                  D. ACL SUPPORT SPECIFICATIONS:

     SERIAL NUMBER 80508                           ---------  MASTER CATALOG  ---------              SUPPORT  ACTIVE :         N
     VERSION   6.1B                                DTFNAME          =  IJSYSDS                      SUPPORT  VIA VM :         N
     SYSTEM IS ACTIVE                              DEVICE ADDRESS   =      142                     TSIDIUCV ADDRESS:
     RECORDER SUBSYSTEM IS ACTIVE                  DEVICE TYPE      =     9336                     TSIDIUCA ADDRESS:
     QDAS SUBSYSTEM IS ACTIVE                      WARNING START    =      200                     TSIDMRXA ADDRESS:
     PARTITION GETVIS 42848 BYTES                  WARNING EVERY    =       10                     TSIDIBMA ADDRESS:
     SLA TABLE SIZE   68102 BYTES                  MASTER  INDEX    =       NO                     TSIDSTKA ADDRESS:
                                                   START ADDRESS (CCHH/BLOCK) =  783862            MEMOREX  ATL'S  :         N
                                                   NUMBER OF BLOCKS           =    5000            IBM      ATL'S  :         N
     TSIDSVA  LOAD ADDRESS   2A45F0                ----------  JOBQ CATALOG  ----------            STK      ATL'S  :         N
     TSIDSRV  LOAD ADDRESS   216058                DTFNAME          =  IJSYSJQ                      ACL  VSE LIBRARY:   EPTEST
     TSIDRVA  LOAD ADDRESS   247698                DEVICE ADDRESS   =      400                     ACL  VSE SUBLIB :   VGS3494
     TSIDJCL  LOAD ADDRESS   23DEC0                DEVICE TYPE      =     FBAV                     REQUEST REGISTER:
     TSIDJCLM LOAD ADDRESS  2D71DE0                WARNING START    =        0                     IUCV  PATH TABLE:
     TSIDOPE  LOAD ADDRESS   226C70                WARNING EVERY    =        0                     ACLTIME          :        50
     TSIDDSN  LOAD ADDRESS   244338                MASTER  INDEX    =       NO                     ACLRECS          :        50
     TSIDDSNM LOAD ADDRESS  2D7AE30                START ADDRESS (CCHH/BLOCK) =       2           ACLAUTI          :         N
            SLATABLE ADDR  2D598A0                 NUMBER OF BLOCKS           =     472           ACL SERVER ID    :
            PARTABLE ADDR  2D6A2C0                 ----------  RECORDER FILE  ----------          ACL LIBRY  NAMES:  BIMSING
            UCBTABLE ADDR  2D59140                 DTFNAME          =  IJSYSDR                      FREE TPDRIV REQD:         Y
     TSIDTAP  LOAD ADDRESS   23C520                DEVICE ADDRESS   =      142
     TSIDJOB  LOAD ADDRESS   2446D0                DEVICE TYPE      =     9336
     TSIDOSJ  LOAD ADDRESS   2297B8                START ADDRESS (CCHH/BLOCK) =  141566
     TSIDSPM  LOAD ADDRESS   23E098                NUMBER OF BLOCKS           =     998
     TSIDSEC  LOAD ADDRESS   2D1718                --------  ERD SHARED FILE  ---------
     TSIDPCS  LOAD ADDRESS   2D16C0                DTFNAME          =  IJSYSSP
                                                   DEVICE ADDRESS   =      142
                                                   DEVICE TYPE      =     9336
                                                   START ADDRESS (CCHH/BLOCK) =  393218
     PTF HISTORY:                                  NUMBER OF BLOCKS           =     228

     SPECIAL OPTIONS IN EFFECT:
```

Report Page 2 This page displays the tape and disk pools defined to BIM-EPIC.

```
TSIDDEB= 6.3                          E P I C   S U M M A R Y   R E P O R T                          PAGE #      2
TIME   8:37:16                                                                                       DATE 05/18/1998

                                      ********** TSIDPOL SUMMARY  **********

                                         POOL START ADDRESS       236D20
                                         MAXIMUM MAP ENTRIES        2044
                                         ILIST ADDRESS            237470
                                         NLUBDTF ADDRESS          237467
                                         NLUBPGM ADDRESS          23745E
                              LOW         HIGH       VOLSER    LEVEL
          POOLID    VOLSER    ADDRESS     ADDRESS    STATUS    (Y/N)                    ILIST     NLUBDTF   NLUBPGM
          POOL01    CKD001         1     5728640                 Y                     IJSYSRS   NLUBDTF   KJNLUB
          FBAVPL    EPV400         1      239999                 N                     IJSYSR1
          POOL90    POOL01                              EQUATED                        IJSYSR2
          CKD001    CKD001         1     5728640                 N                     IJSYSR3
          FBA001    FBA001    800000      920115                 N                     IJSYSR4
          EPV400    EPV400         1      239999                 N                     IJSYSRC
          FBAVER    FBAP11        64       29525                 Y                     IJQFILE
                    FBAP12        64       29525                                       IJDFILE
                    FBAP13        64       29525                                       IJAFILE
                    FBAP14        64       29525                                       IJSYSHF
                    FBAP15        64       29525                                       EPICLIB
          FBAP11    FBAP11        64       29525                 N                     EPCVER
          FBAP12    FBAP12        64       29525                 N                     EPPVER
          FBAP13    FBAP13        64       29525                 N                     EPPTF
          FBAP14    FBAP14        64       29525                 N                     EXPLORE
          FBAP15    FBAP15        64       29525                 N                     PRD1
          CKDVER    CKDP11         1     5728640                 Y                     PRD2
                    CKDP12         1     5728640                                       ISMDEV
                    CKDP13         1     5728640                                       ISMINST
                    CKDP14         1     5728640                                       ISMLIB
                    CKDP15         1     5728640                                       ILDTF
          CKDP11    CKDP11         1     5728640                 N
          CKDP12    CKDP12         1     5728640                 N
          CKDP13    CKDP13         1     5728640                 N
          CKDP14    CKDP14         1     5728640                 N
          CKDP15    CKDP15         1     5728640                 N
          TAPOLA    A         990000      990099    TAPE POOL
                    B         990100      990199
                    C         990200      990299
                    J         KC1100      KC1199
                    K         KC1000      KC1099
```

Report Page 3 This page displays the current QDAS operating environment.

```
TSIDDEB= 6.3                              E P I C    S U M M A R Y    R E P O R T                              PAGE #      3
TIME   8:37:16                                                                                                 DATE 05/18/1998

                                        ********** QDAS VOLSER SUMMARY **********

                                            $IJJHCVH START ADDRESS   138E20
                                            TSIVSVA  START ADDRESS   248D38
                                            TSIVDEF  START ADDRESS   248C20
                                    VOLSER     MAPSIZE    MAPAREA&      STATUS
                                    EPV400       2044       2D4E018
                                    CKD001       2044       2D4A028     SHARED
                                    CKDP11       2044       2D46038     SHARED
                                    CKDP12       2044       2D42048     SHARED
                                    CKDP13       2044       2D3E058     SHARED
                                    CKDP14       2044       2D3A068     SHARED
                                    CKDP15       2044       2D36078     SHARED
                                    FBA001       2044       2D32088     SHARED
                                    FBAP11       2044       2D2E098     SHARED
                                    FBAP12       2044       2D2A0A8     SHARED
                                    FBAP13       2044       2D1F018     SHARED
                                    FBAP14       2044       2D1B028     SHARED
                                    FBAP15       2044       2D17038     SHARED
```

Report Page 4 This page displays the current VSE operating environment.

```
TSIDDEB= 6.3                              E P I C    S U M M A R Y    R E P O R T                              PAGE #      4
TIME   8:37:16                                                                                                 DATE 05/18/1998

                                      ********** OPERATING ENVIRONMENT **********

                                      VSE/ESA RELEASE 2.3
                                      VSE/AF  RELEASE 6.3.0
                                      EXECUTION IN MODE = ESA
                                      CPUID   FF22222274900000
                                      LPAR MODE NOT ACTIVE
                                      TURBO DISPATCHER IS NOT ACTIVE
                                      UNI-PROCESSOR SUPPORT
                                      DASDSHR IS SUPPORTED
                                      VSE SECURITY IS NOT ON
                                      DASD FILE PROTECT NOT SUPPORTED
                                      JOB ACCOUNTING IS SUPPORTED

                                      CVT ADDRESS                       7498
                                      LTA ADDRESS                       5570
                                      PUB TABLE ADDRESS                 32B0
                                      TOTAL NUMBER OF PUBS GENED         254
                                      SVA PHASE AREA        (LOW)      97000
                                      SVA PHASE AREA SIZE   (LOW)       6372K
                                      SVA PHASE AREA        (HIGH)   2700000
                                      SVA PHASE AREA SIZE   (HIGH)      7168K
                                      SYSTEM GETVIS ADDRESS (LOW)     4E5000
                                      SYSTEM GETVIS SIZE    (LOW)       1728K
                                      SYSTEM GETVIS ADDRESS (HIGH)   2BDB000
                                      SYSTEM GETVIS SIZE    (HIGH)      2196K
                                      EXTERNAL NEW PSW                  B8D0
                                      SVC      NEW PSW                  B51C
                                      PROGRAM  NEW PSW                  BB3C
```

Report Page 5

This page displays information about both the static and dynamic partitions defined to the current operating environment.

```
TSIDDEB= 6.3                                E P I C    S U M M A R Y    R E P O R T                                  PAGE #      5
TIME   8:37:16                                                                                                      DATE 05/18/1998

                                        ********** STATIC  PARTITIONS SUMMARY  **********
        ----- PARTITION ----    ------ GETVIS ------
 PART      START       SIZE      START       SIZE      COMREG   JOBNAME    NPGR   NSYS   LUBTAB   STASK   STATUS
  BG      700000       1280K     840000       4864K       5B8   NO NAME    255    050      1614           EPIC IS ACTIVE
  FB      700000       1024K     800000       1024K      49B0   NO NAME    255    050      2E88           EPIC IS ACTIVE
  FA      700000       1024K     800000       1024K      4880   NO NAME    255    050      2C26           EPIC IS ACTIVE
  F9      700000       1024K     800000       1024K      4750   NO NAME    255    050      29C4           EPIC IS ACTIVE
  F8      700000       2048K     900000       2048K      4620   NO NAME    255    050      2762           EPIC IS ACTIVE
  F7      700000       1024K     800000       1024K      44F0   NO NAME    255    050      2500           EPIC IS ACTIVE
  F6      700000       1024K     800000       1024K      43C0   NO NAME    255    050      229E           EPIC IS ACTIVE
  F5      700000       1024K     800000       1024K      4290   NO NAME    255    050      203C           EPIC IS ACTIVE
  F4      700000       3072K     A00000       3072K      4160   TSIDDEB    255    050      1DDA           EPIC IS ACTIVE
  F3      700000        600K     796000       5544K      4030   NO NAME    255    050      1B78           EPIC TURNED OFF
  F2      700000       3072K     A00000      17408K      3F00   NO NAME    255    050      1916           EPIC IS ACTIVE
  F1      700000       1024K     800000       1536K      3DD0   SNAPOWER   030    050      1876       1   EPIC IS ACTIVE
                                        ********** DYNAMIC CLASS TABLE SUMMARY **********
 CLASS   PART   NPGR     SIZE     ALLOC    SP-GVIS    PROFILE       MEMBER      STATUS
   C       9    255     01024K      2M       512K     SNADYN2      DTR$DYN2     ENABLED
   P      10    255     01024K      2M       512K     PWSPROF      DTR$DYN2     ENABLED
   U      10    255     01024K      2M       512K     SNADYN2      DTR$DYN2     ENABLED
   Y       8    255     01280K      2M       512K     SNADYN2      DTR$DYN2     ENABLED
   Z       3    255     01280K      5M       512K     SNADYN2      DTR$DYN2     ENABLED
                                        ********** DYNAMIC PARTITIONS SUMMARY  **********
        ----- PARTITION ----    ------ GETVIS ------
 PART      START       SIZE      START       SIZE      COMREG   JOBNAME                          STASK   STATUS
  Z1      780000       1280K     8C0000       3328K     564520   FAQSMAIN                             6   EPIC IS ACTIVE
```

Report Page 6 This page lists both tape and disk devices defined to the current operating environment.

```
TSIDDEB= 6.3                                E P I C    S U M M A R Y    R E P O R T                    PAGE #      6
TIME   8:37:16                                                                                          DATE 05/18/1998

 CUU   DEVICE TYPE   MODE/SER   ATTRIBUTES      PUB      PUB2      PUBX      INDEX    ACLNAME

 140    9336         DOSRES     R A   M X      32D0     6172C     622CC         4
 141    9336         SYSWK1     R A   M        32D8     6173C     623B0         5
 142    9336         FBA001     R A   M        32E0     6174C     62494         6
 143    9336         FBA002     R     M        32E8     6175C     62578         7
 144    FBA                     * DOWN *       32F0     6176C     6265C         8
 145    FBA                     * DOWN *       32F8     6177C     62740         9
 146    FBA                     * DOWN *       3300     6178C     62824         A
 147    FBA                     * DOWN *       3308     6179C     62908         B
 160    3390         CKD001     R     M        3310     617AC     629EC         C
 161    3380         CKDP11     R     M        3318     617BC     62AD0         D
 162    3380         CKDP12     R     M        3320     617CC     62BB4         E
 163    3380         CKDP13     R     M        3328     617DC     62C98         F
 164    3380         CKDP14     R     M        3330     617EC     62D7C        10
 165    3380         CKDP15     R     M        3338     617FC     62E60        11
 172    9336         VSEPWR     R     M        33A0     618CC     639F4        1E
 173    9336         VSELBL     R     M        33A8     618DC     63AD8        1F
 174    9336         VSEPAG     R     M        33B0     618EC     63BBC        20
 178    9336         VSEPW2     R     M        33D0     6192C     63F4C        24
 179    9336         FBAP11     R     M        33D8     6193C     64030        25
 17A    9336         FBAP12     R     M        33E0     6194C     64114        26
 17B    9336         FBAP13     R     M        33E8     6195C     641F8        27
 17C    9336         FBAP14     R     M        33F0     6196C     642DC        28
 17D    9336         FBAP15     R     M        33F8     6197C     643C0        29
 400    FBAV         EPV400     R A            3468     61A58     64E94        37
 580    3422         6250                N     3498     61AB8     653EC        3D
 581    3410         6250                N     34A0     61B10     654C8        3E
 582    3410         6250                N     34A8     61B68     655A4        3F
 583    3410         6250                N     34B0     61BC0     65680        40
 584    3410         6250                N     34B8     61C18     6575C        41
 590    3480         00                  N     34C0     61C70     65838        42
 600    TPA          00                  N     34C8     61C8B     65928        43
 601    3490-E       00                  N     34D0     61CA6     65A30        44   BIMSING
 602    3490-E       00                  N     34D8     61CC1     65B38        45   BIMSING
 603    TPA          00                  N     34E0     61CDC     65C40        46   BIMSING
 604    TPA          00                  N     34E8     61CF7     65D48        47   BIMSING
 620    TPA          00                  N     34F0     61D12     65E50        48
 621    TPA          00                  N     34F8     61D2D     65F58        49
 622    TPA          00                  N     3500     61D48     66060        4A
 F00    3420         DOWN                      3520     61D8F     663B0        4E


                                                        ATTRIBUTE VALUES
                                                        A=DEVICE IS ASSIGNED
                                                        M=DEVICE ADDED AS SHARED
                                                        N=NOAVR SET
                                                        R=RPS SUPPORT
                                                        S=DEVICE ADDED AS SWITCHABLE
                                                        X=DEVICE IS SYSRES
                                                        Y=DEVICE IS XAPI ELIGIBLE
```

Report Page 7 This page lists the information provided by all products who have identified themselves to the current operating environment.

```
TSIDDEB= 6.3                              E P I C    S U M M A R Y    R E P O R T                              PAGE #      7
TIME   8:37:16                                                                                                  DATE 05/18/1998

                                                  VENDOR PRODUCTS IDENTIFIED
     COMPANY           PRODUCT             RELEASE                  COMPANY           PRODUCT             RELEASE
     B I MOYLE         BIM-GSS FOR VSE     05000                    B I MOYLE         FAQS/ASO GSFAQS     05000
     SYNCSORT INC.     SYNCSORT VSE        SS31C                    B I MOYLE         BIM-EPIC            06010B
```

Report Page 8 This page lists the status, type, and other information relevant to various interfaces within the current operating environment.

```
TSIDDEB= 6.3                              E P I C    S U M M A R Y    R E P O R T                              PAGE #      8
TIME   8:37:16                                                                                                  DATE 05/18/1998

                                                   SYSTEM INTERFACES
                                                  ------------ ADDRESSES -----------
     INTERFACE         STATUS       TYPE     EPIC MOD      PRIOR         NEW         CURRENT
     AR                ACTIVE       EXIT     TSIDEAR                                 80237520
     PRE-OPEN          ACTIVE       EXIT     TSIDEO1                                 82966268
     POST-OPEN         ACTIVE       EXIT     TSIDEO2                                 829667B8
     PRE-CLOSE         ACTIVE       EXIT     TSIDEC1                                 82966E18
     POST-CLOSE        ACTIVE       EXIT     TSIDEC2                                 82967498
     EOX               ACTIVE       EXIT     TSIDEOX                                 82967AF0
     EOV               ACTIVE       SWAP     TSIDTAP       0013BFA8     0023C520     0013BFA8
     VMSVC             ACTIVE       SWAP     TSIDVMS                                 0059FB30
     IUCV              INACTIVE
     JOBEXIT           ACTIVE       SWAP     TSIDJCL       001483B0     0023DEC0     0023DEC0
     JOBACCT           ACTIVE       SWAP     TSIDJOB       001483A8     002446D0     002446D0
     SLA               ACTIVE       SWAP     TSIDDSN       00105440     00244338     00244338
     CVH               ACTIVE       SWAP     TSIVSVA       00138E20                  00248D38
     LE/VSE            ACTIVE       EXIT     TSIDELE                                 8023A510
     COBOL-II          INACTIVE
```

Report Page 9 This page displays information attributable to the BIM-EPIC Dispatcher environment.

```
TSIDDEB= 6.3                          E P I C   S U M M A R Y   R E P O R T                          PAGE #      9
TIME   8:37:16                                                                                       DATE 05/18/1998

                                          EPIC DISPATCHER ENVIRONMENT

                                     ROLLING QUEUE     00000000
                                     REQUEST QUEUE     00000000
                                     TASK TABLE        002A4D5C

                                     TASK/SUBTASK                  TID     STATUS

                                     TASK                                  INACTIVE
```

Report Page 10 This page provides addresses of many of the BIM-EPIC sub-modules.

```
TSIDDEB= 6.3                          E P I C   S U M M A R Y   R E P O R T                          PAGE #     10
TIME   8:37:16                                                                                       DATE 05/18/1998

                                    ********** MODULE CROSS REFERENCE  **********
   MODULE       LOAD ADR     MODULE       LOAD ADR     MODULE       LOAD ADR     MODULE       LOAD ADR     MODULE       LOAD ADR
   ACLMNT         2CFF68     ALLOCRE        2C3A48     BLDDDSN        2B6458     BLDTDSN        2BDC40     CALCSPCE       2C5060
   CANCEL         2AAEE0     CATAUTO        2AE160     CATNR          2C8250     CATNV          2C83E8     CATRD          2C8848
   CATRE          2C8980     CATRR          2C8580     CATRW          2C8718     CATSVA         2C8AC0     CHKHDR         2CD200
   CLEANTBL       2B5E60     CLODSN1        2D0A20     CLOSEDSK       2B1A30     CLOSETAP       2BCE90     CONLUBS        2B5640
   CONSOLE        2AFEB0     CVTOC          2B4BD0     DECDDTF        2AC3F0     DECDLBL        2B69B0     DECDDLB        2CD438
   DECDLUB        2B0480     DECDTLB        2CDE88     DELEQUAL       2B5888     DEVIND         2B9008     DFAST          2B0D28
   DFASTIN        2B24E8     DFCKREL        2C7008     DONTLAS        2C43D0     DSPLY          2B36D8     ENCODE         2C2158
   ERASELBL       2BCD38     FINDDSN        2AD290     FINDERR        2BE848     FINDF1         2C2ED8     FINDLUB        2AFC28
   FINDPOOL       2B5F90     FINDPUB        2AB328     FINDRIVE       2BB748     FNDSPAC        2C5680     FREER          2C32D0
   GDIDKTP        2B73D8     GDIOFF         2CF440     GDITPDK        2C0AE8     GDIURTP        2C6090     GETLABEL       2AC6A8
   GETVCE         2B51C8     GETVIS         2AB150     GETVSER        2C7848     GINTER         2C7D10     GVTAB          2A62F8
   GVTABE         2A82F8     IGNMOD         2C6C40     INIT           2AA290     INTVREQ        2CCF20     ISSUEMNT       2BC510
   ISSUEM1        2C7AA0     JIBIT          2B05E8     JQNR           2C8BF8     JQNV           2C8D80     JQRR           2C8F08
   JQRW           2C9090     JQTPOPN        2CCD38     KEY0OFF        2AC2E0     KEY0ON         2AC1D0     LBL2DISK       2C08A8
   LBL2TAPE       2B9378     LCDSPLY        2BFBC8     LOCBLK         2CF218     LSTPAT         2A8300     LUBALL         2AF590
   MAKEMAN        2BEEE0     MODDTF         2BFF80     MT02I          2D0620     OVTOC          2B4D80     PATAREA        2A8560
   PATARE2        2A9290     POSTOPN        2CEE00     PROWNER        2C4A50     PVTOC          2B4738     QUALTAP1       2BAF58
   RDBLKID        2CF098     READCON        2B0118     READHDR        2BF8B8     REBLKDSK       2B96B0     REBLOCK        2C1C68
   RECORDIT       2B08A8     RELEASE        2ABB08     REMVSER        2CE880     RESERVE        2AB908     REWTAPE        2BEDB8
   REWTTLBL       2BE978     RUNTAPE        2AAD10     RWLBL2         2C2A58     SENSE          2ABF38     SETCONC        2B7068
   SETMSG         2C9930     SERVICE        2CEA48     SIEZE          2ABC88     STARTIO        2B0380     STRPDTF        2C91B8
   ST1IN          2B3180     SVAMAIN        2A5EB8     TFAST          2B9A30     TFASTIN        2BA7D8     TIMEOUT        2BE698
   TPOPEN1        2BAC00     TRUNK          2B3FC8     UNASSGN        2AF1C8     UNCLUB         2AEB38     UNSIEZE        2ABE18
   VALIDX         2C9708     VSAMDS         2C3EC0     WRITHDR        2BFD50     WRTF1LB        2B4478     XECBTF         2AF080
   TFVSEOPE       226C70     TFVSERD        2271D8     TFVSERE        227234     TFVSERW        227910     TFVSENV        2272E0
   TFVSENR        227288     TFVSEFR        2274C4     TFVSERR        2274D2     TFVSESR        22810A     TFVSESC        227344
   $SYSIDNT       225038     $SYSGVIS       224D70     $SYSFVIS       224AC0     $PREOPEN       220DA8     $MNTINTF       21E8A0
   $USEREXI       2268B8     $ACLSRV        217EF8     $UCBSRV        2251F8     $SPINLOK       222F50     $JQUPD         21D810
   $POLSCAN       220BC8     $JCLINFO       218158     $PARSE         21EDD0     $SECURE        2225B8     $SEXTUPD       2226E8
```

Vaults and Vaulting Methods

Introduction

Description

The BIM-EPIC vaulting subsystem is configured using the VAULTDEF and METHOD macros. You can change the vaulting configuration by re-assembling and linking these macros. The changes are recognized the next time TSIDVLT is run. At that time, the Vault Movement Report lists all tapes that must be moved to reflect the changes.

Standard IBM macro coding rules apply to both macros. All VAULTDEF and METHOD macro statements must be assembled and link-edited together to create the TFVAULT module. The TFVAULT module must be in a library which is accessible to BIM-EPIC utility programs during execution.

Macro statements are restricted to 256 characters in length.

The TFVAULT module is created in three steps:

Step	Action
1	Define vault locations
2	Define vaulting methods
3	Assemble and link the VAULTDEF and METHOD macros

Defining Vault Locations

Description

Define each automatically controlled vault with the VAULTDEF macro. The EPICVLT.Z member contains samples for the VAULTDEF macro.

You can create as many as 65,535 automatically controlled vaults. Vaults are identified by number. The main library is always vault 0 (zero). As each VAULTDEF macro is encountered, BIM-EPIC identifies that vault with next ascending sequential number (beginning with 1).

You can define the number of slots in each vault if you wish. If defined, the total number of slots in all vaults is limited to 32,767.

Syntax

```
VAULTDEF 'vault-name' [ ,ss,ns ][ ,AVAULTS= ]
```

Parameters

Parameter	Required?	Values	Default
vault-name	Yes	1 to 24 characters	None
ss	No	Any number	None
ns	No	Any number	None
AVAULTS	No	1 to 65535	100

vault-name specifies the 1 to 24-character name of the vault being defined. Enclose the name in apostrophes. You can define only one vault per VAULTDEF statement.

ss specifies the starting slot number. Use it to assign slot numbers to the vault. If *ss* and *ns* are not supplied, there is no limit to the number of tapes the vault can contain.

ns specifies the number of slots in the vault. It must be supplied when you use the *ss* parameter.

AVAULTS specifies the number of automatic vaults. Vaults with a number greater than the number specified here are manually controlled vaults (see “Manually Controlled Vaults," in the *User Reference*). AVAULTS is valid only when specified on the first VAULTDEF macro statement.

Examples

The following statement defines the vault named ACME Vault-1. It has room for 2,000 tapes and has slots numbered from 5000 to 6999.

```
VAULTDEF 'ACME VAULT-1',5000,2000
```

The following statement defines the KEARNEY vault and has no limit to the number of tapes it can contain. The AVAULTS parameter specifies that automatic vaults can number up to 500. (Vaults numbered 501 and above are to be considered manually controlled vaults.) It is valid if this is the first VAULTDEF statement.

```
VAULTDEF 'KEARNEY',AVAULTS=500
```

Defining Vaulting Methods

Description

Vaulting methods are defined with METHOD macro statements. The EPICVLT.Z member contains samples of the METHOD macro.

You can define up to 255 vaulting methods. Specify vault method statements in ascending order by method number without any gaps between numbers. If you specify statements out of sequence or with gaps in the sequence, MNOTE errors will occur.

Syntax

```
METHOD method,version1,version2,...,version198
```

Parameters

Parameter	Required?	Values	Default
method	Yes	1-255	None
versionn	Yes	1-198	None

method specifies the number of the vaulting method being defined.

versionn specifies the number of the vault to which a dataset version is to be moved. Vault location numbers are positional: the first specifies the vault location of the first version, the second specifies the location of the second version, and so on. Only versions explicitly coded in the method are vaulted. Tape versions exceeding the number you specify in the method are returned to the main library.

Example

The following statement defines vaulting method number 2. Version 1 is located in the main library. Version 2 is moved to vault number 1. Version 3 is kept in vault number 1; version 4 is moved to vault 3; version 5 is kept in vault 3; version 6 is moved back to the main library.

```
METHOD 2,0,1,1,3,3
```

Assembling and Linking VAULTDEF and METHOD Macros

Description

Using the JCL below as an example to assemble and link-edit your VAULTDEF and METHOD macros. This sample is also found as EPICVLT.Z in the BIM-EPIC installation Sublibrary.

Example

```
* $$ JOB JNM=EPICVLT,LDEST=(,USERID)
// JOB EPICVLT
*
* THIS IS SAMPLE JCL TO ASSEMBLE AND CATALOG VAULTDEF AND METHOD MACROS
* TO THE BIM-EPIC SUBLIBRARY.  MODIFY THIS SAMPLE TO SUIT YOUR
* INSTALLATION REQUIREMENTS.  CONSULT THE BIM-EPIC INSTALLATION AND
* SYSTEM GUIDE FOR AN EXPLANATION OF ALL THE PARAMETERS FOR THESE
* MACROS.  VALUES SURROUNDED BY ASTERISKS NEED TO BE MODIFIED.
*
// LIBDEF PHASE,CATALOG=*LIB.SUBLIB*   EPIC INSTALL LIBRARY
// LIBDEF *,SEARCH=*LIB.SUBLIB*        EPIC INSTALL LIBRARY
// OPTION CATAL
// EXEC ASSEMBLY
************************************************************************
* VAULT 1 HAS 200 SLOTS NUMBERED 1 TO 200.  VAULT 2 HAS 500 SLOTS     *
* NUMBERED 1 TO 500.  VAULT 3 HAS 50 SLOTS NUMBERED 50 TO 99.  METHOD *
* 1 WILL KEEP VERSION 2 IN VAULT 1, VERSION 3 IN VAULT 2, AND ALL     *
* OTHER VERSIONS IN THE MAIN LIBRARY.  METHOD 2 WILL KEEP VERSION 1   *
* IN VAULT 1, VERSION 2 IN VAULT 2, VERSION 3 IN VAULT 3, AND ALL     *
* OTHER VERSIONS IN THE MAIN LIBRARY.  METHOD 3 WILL KEEP VERSION 3   *
* IN VAULT 3, VERSION 4 IN VAULT 1, AND ALL OTHER VERISONS IN THE     *
* MAIN LIBRARY.                                                       *
************************************************************************
         VAULTDEF 'VAULT 1',1,200
         VAULTDEF 'VAULT 2',1,500
         VAULTDEF 'VAULT 3',50,50
         METHOD 1,0,1,2
         METHOD 2,1,2,3,0
         METHOD 3,0,0,3,1,0
         END
/*
// EXEC LNKEDT
/&
* $$ EOJ
```

Additional BIM-EPIC Macros

Sort Interface Macro (TSSRTDEF)

Description

The TSSRTDEF macro defines how BIM-EPIC's TSIDSRT sort interface operates. It defines default logical unit numbers for SORTIN, SORTOUT, and SORTWK and specifies whether the EP242 RECORDS WRITTEN TO OUTPUT message is issued

A default macro is provided during installation. If you want to change the default options, modify, re-assemble, and link-edit the TSSRTDEF macro.

You must update the macro if the default SYS numbers specified for your SORT package differ from the macro's defaults. The macro's defaults are the same as the distributed defaults for each SORT package:

- SORTOUT=1
- SORTIN1=2
- SORTWK=Last SORTIN logical unit number +1

A sample job stream to assemble and catalog the TSSRTDEF macro is cataloged in the BIM-EPIC installation Sublibrary as TSSRTDEF.Z.

Format

```
TSSRTDEF BYPWRKO=NO,                                X
         PRINT=NO,                                  X
         ROUTE=BOTH,                                X
         SORTCTL=NO,                                X
         SORTIN=(n,n,n,...),                        X
         SORTOUT=n,                                 X
         SORTWK=(n,n,n,...)
```

Parameters

Parameter	Required?	Values	Default
BYPWRKO	No	NO or YES	NO
PRINT	No	NO or YES	NO
ROUTE	No	BOTH, LST, or LOG	BOTH
SORTCTL	No	NO or YES	NO
SORTIN	No	1 to 255	2
SORTOUT	No	1 to 255	1
SORTWK	No	1 to 255	last + 1

BYPWRKO specifies whether TSIDSRT is to bypass the pre-open for SORTWK areas before invoking SORT. If NO, TSIDSRT pre-opens the SORTWK areas to ensure that proper

assignments and extent information is available to the SORT. If YES, TSIDSRT bypasses the pre-open check, and all SORTWK assignments and extents must be properly supplied.

PRINT specifies whether the EP242 message is to be issued. NO suppresses the message. You can cause the message to be issued by supplying a SORT OPTION statement with PRINT=ALL. YES causes the message to be issued. You can suppress the message by supplying a SORT OPTION statement with PRINT=NONE or PRINT=CRITICAL.

ROUTE specifies where the EP242 message is to be issued. ROUTE=BOTH causes the message to be issued on both SYSLST and SYSLOG. ROUTE=LST causes the message to be issued only on SYSLST. ROUTE=LOG causes the message to be issued only on SYSLOG.

SORTCTL specifies whether the SORT control statements are to be displayed on SYSLST. NO suppresses display of the SORT control statements. YES enables display of the SORT control statements. The messages will be prefixed with the message number EP246. SORTCTL does not affect OPTION PRINT=ALL or your standard SORT configuration with respect to displaying the SORT control statements.

SORTIN specifies the default logical unit numbers for SORTIN1 through SORTIN9. Supply the logical unit number for SORTIN1 first, SORTIN2 second, etc. You can specify up to nine logical unit numbers. SORT OPTION statements override these numbers.

SORTOUT specifies the default logical unit numbers for SORTOUT. You can specify one logical unit number. SORT OPTION statements override this number.

SORTWK specifies the default logical unit numbers for SORTWK1 through SORTWK9. Supply the logical unit number for SORTWK1 first, SORTWK2 second, etc. You can specify up to nine logical unit numbers. SORT OPTION statements override these numbers.

Example

This example changes the default logical unit numbers to SYS010 through SYS016 for SORTIN1 through SORTIN7, to SYS020 for SORTOUT, and to SYS030 through SYS032 for SORTWK1 through SORTWK3. The EP242 message will be issued on both SYSLST and SYSLOG. SORT control statements will be displayed on SYSLST.

```
// OPTION CATAL
// EXEC ASSEMBLY
   TSSRTDEF SORTOUT=20,                                  X
       SORTIN=(10,11,12,13,14,15,16),                    X
       SORTWK=(30,31,32),                                X
       ROUTE=BOTH,                                       X
       PRINT=YES,                                        X
       SORTCTL=YES,                                      X
       BYPWRKO=NO
   END
/*
// EXEC LNKEDT
```

Job Scheduling Macro (TSIDFAV)

Description

The TSIDFAV macro creates the TSIDFAVU phase containing user overrides of several TSIDFAV options.

If the TSIDFAV macro is not coded and assembled, default values are used.

Format

```
TSIDFAV  TYPE=NAME,NAME='report-heading'
         TYPE=LOC,LOC=column
         TYPE=EOF,EOF=eof-characters
         TYPE=SLI,SLI=sublibrary
         TYPE=FINAL
```

Parameters

report-heading is limited to 20 characters. The default is spaces.

column is the location (column) of the input/output code on the TLBL or DLBL statement. The default is 50. Possible code values are:

Value	Description
I	Input file
O	Output file
B	Both input and output. If B is specified, the next card column must contain the correct code for the direction of the first open. BI is input first, BO is output first.

eof-characters are the two characters in columns 1 and 2 indicating end-of-file. The default is two dashes (--).

sublibrary is the default source statement sublibrary used when processing POWER SLIs if no sublibrary is specified on the SLI statement. *sublibrary* must be identical to that specified during POWER installation. The default is G.

TYPE=FINAL must be coded last.

Example

```
// OPTION CATAL
// EXEC ASSEMBLY
   TSIDFAV TYPE=NAME,NAME='B I MOYLE ASSOCIATES'
   TSIDFAV TYPE=SLI,SLI=K
   TSIDFAV TYPE=FINAL
   END
/*
// EXEC LNKEDT
```

Coding the Label Print Subroutine

Introduction

Description

You can use BIM-EPIC to create gummed dataset labels for output tapes automatically. A BIM-EPIC program gathers information about a tape dataset when it is opened. You write a subroutine that formats the information and prints the label.

Overview

When an output tape dataset is opened, BIM-EPIC creates the following 58-byte record:

Field	Length
Dataset name	17 bytes
Volume serial number	6 bytes
Job name	8 bytes
Partition ID	2 bytes
Date	8 bytes (mm/dd/yy)
Time	6 bytes (hhmmss)
Tape device number (cuu)	3 bytes
Density	2 bytes (C0, C8, D0, and so on)
CPUID	4 bytes (binary)
Tape volume sequence	2 bytes (binary)

BIM-EPIC then passes the record and control to your subroutine. Your subroutine formats and prints the label, and then passes control back to BIM-EPIC.

You can print labels from CICS or in batch mode. Printing dataset labels in batch mode requires a dedicated printer and, of course, a dedicated partition. To print dataset labels online requires a dedicated printer and a dedicated terminal unless you start the transaction through the PLT. If you start the transaction through the PLT, you must dedicate a printer port to the transaction. That printer port can be freed by deleting the transaction from the PLT or by entering the TPRE transaction in CICS.

The RMNTPRT configuration option must be set to YES.

You can write your subroutine in either COBOL or Assembler. You can use the copybook record layout TSIDBPR.C or TSIDPRT.A. Sample Assembler and COBOL subroutines are provided to demostrate the coding technique required to print tape labels in a batch partition. These programs can be found in the BIM-EPIC installation library under the names TSIDPR.C and TSIDPR.A (COBOL and Assembler respectively). Both Assembler and COBOL subroutines should open the printer file (DTF) only once to avoid depletion of Partition GETVIS. The COBOL subroutine program ID must be TSIDPR to avoid a conflict with the entry point name which must be defined as TSIDPR1.

Printing Labels In Batch Mode

Procedure

If you are running under VM and processing with VIRTUAL=REAL (instead of VIRTUAL=VIRTUAL), we recommend that you use CICS for your label printing.

Step	Action
1	Create your subroutine to format and print the label from the record passed by TSIDBPR. Use the sample programs found in the BIM-EPIC installation library as examples. Both an Assembler example, TSIDPR.A, and a COBOL example, TSIDPR.C, are provided.
2	Assemble or compile your subroutine, and then catalog it into the BIM-EPIC library as TSIDPR.OBJ.

3	Link TSIDPR with TSIDBPR and catalog the phase into the BIM-EPIC library. TSIDBPR uses standard linkage conventions. The following JCL example can be used to catalog the phase.
	`// JOB CATALOG TSIDBPR`
	`// OPTION CATAL`
	`ACTION CLEAR`
	`INCLUDE TSIDBPR`
	`INCLUDE TSIDPR`
	`/*`
	`// EXEC LNKEDT`
	`/*`
	`/&`

4	Execute the TSIDBPR program in any available partition.
5	To terminate the label printing function, execute the TSIDPEN program in any available partition.

Printing Labels Using CICS

Procedure

Step	Action
1	Code your subroutine to format and print the label from the record passed by TSIDPRT. Use the sample COBOL program TSIDLPRT.C in the BIM-EPIC installation library. TSIDPRT passes the dataset record to your program through the transient data file. It uses XECBs or XPCCs to communicate between programs.
2	Compile your subroutine and catalog it into the BIM-EPIC installation library as TSIDLPRT.OBJ.

3	Link TSIDLPRT and catalog the phase into the BIM-EPIC installation library. TSIDPRT uses standard linkage conventions. The following JCL can be used to catalog the phase.
	`// JOB CATALOG TSIDLPRT`
	`// OPTION CATAL`
	`ACTION CLEAR`
	`INCLUDE TSIDLPRT`
	`/*`
	`// EXEC LNKEDT`
	`/*`
	`/&`

4	The TPRT transaction must be installed to print labels online. If TPRT is not installed, install it now. See 2-75 for procedures.
5	If you did not start the TSIDPRT program from the PLT table, then start the TPRT transaction from any available terminal. (This terminal is not released until CICS is cycled or when the batch program TSIDPEN is executed in any available partition).

User Exits

BIM-EPIC can extend the capabilities of security packages and job schedulers. BIM-EPIC provides skeleton user exits for these interfaces, as well as a VSE Label utility.

Interfacing to Your Security Package (TSIDSEC)

Description

At activation, BIM-EPIC looks for module TSIDSEC in the SVA. If this module is found, BIM-EPIC transfers control to TSIDSEC before opening disk dataset extents or tape dataset volumes.

BIM-EPIC passes a parameter list containing information about the dataset and function requested. The parameter list fields are defined in the EIM macro, which can be used as a DSECT.

You must insert code into the BIM-EPIC skeleton user exit TSIDSEC. Your code accesses your security package and requests it to determine whether the function is approved. Then your security package must either cancel the job or pass a return code indicating what BIM-EPIC is to do with the function.

TSIDSEC is written in ASSEMBLER. BIM-EPIC branches to TSIDSEC with Register 15 pointing to the entry point. It returns through Register 14. The address of the parameter list is passed in Register 1. Register 13 points to a 9-doubleword save area.

See the expansion of the EIM macro for more information on the use of registers, fields and values, and return codes.

WARNING!

Coding this user exit incorrectly can make BIM-EPIC inoperable. Do not undertake this task without adequate knowledge of BIM-EPIC and your security package.

Procedure

Update the TSIDSEC exit as follows:

Step	Action
1	Punch the module TSIDSEC.A from the BIM-EPIC installation library.
2	Beginning at the area stating " PLACE ASSEMBLER CODE HERE FOR YOUR OWN SECURITY EXIT," call your security program and process as necessary.
3	If the function is approved, place a X'00' return code in the EIMRC field and pass control back to TSIDSEC. If the function is not approved, your security program should cancel the job. If you want BIM-EPIC to cancel the job, place a X'10' in the EIMRC field.
4	Assemble and catalog TSIDSEC into the BIM-EPIC installation library.
5	Add the following entry to your SDL load procedure: TSIDSEC,SVA

Interfacing to Your Job Scheduling Package (TSIDPCS)

Description

At activation, BIM-EPIC looks for the TSIDPCS module in the SVA. If this module is found, BIM-EPIC transfers control to TSIDPCS at close for tape and disk datasets and tape volumes. BIM-EPIC passes a parameter list containing information about the dataset or volume serial number processed. The parameter list fields are defined in the EIM macro, which can be used as a DSECT.

You must insert code into the BIM-EPIC skeleton user exit (TSIDPCS). Your code interfaces with your job scheduling package and processes as necessary.

TSIDPCS is written in Assembler. BIM-EPIC branches to TSIDPCS with Register 15. It returns through Register 14. The address of the parameter list is passed in Register 1. Register 13 points to a 9-doubleword save area.

See the expansion of the EIM macro for more information on the use of registers, fields and values, and return codes.

WARNING!

Coding this user exit incorrectly can make BIM-EPIC inoperable. Do not undertake this task without adequate knowledge of BIM-EPIC and your scheduler.

Procedure

Update the TSIDPCS exit as follows:

Step	Action
1	Punch the module TSIDPCS.A from the BIM-EPIC installation library.
2	Beginning at the area stating " PLACE ASSEMBLER CODE HERE FOR YOUR OWN JOB SCHEDULING EXIT," call your scheduler and process as necessary.
3	Assemble and catalog TSIDPCS into the BIM-EPIC installation library.
4	Add the following entry to your SDL load procedure: TSIDPCS,SVA

Reading and Modifying a VSE Label

Description

BIM-EPIC provides the TSIDUXI label exit to read and update a VSE label.

Using TSIDUXI, any field in a VSE label can be modified except the following:

- The 13-byte system code field
- File name (DTF name)
- Any field in the LPL

The TSIDUXI.A module is distributed as a basis for coding your exit routine.

Processing

The Label Exit must reside in 24-bit SVA. At activation, BIM-EPIC looks for module TSIDUXI in the SVA. Later, BIM-EPIC transfers control to it during open processing when a VSE label is retrieved from the Label Area. Standard calling conventions are used when BIM-EPIC passes control to TSIDUXI.

Registers

TSIDUXI uses the following registers:

Register	Points to...
1	Parameter list addressed by the EPLI macro
13	Save area
14	Return address
15	Base address

EPLI Macro and Parameter List

All communication between BIM-EPIC and the TSIDUXI exit uses a parameter list passed in Register 1. BIM-EPIC provides the EPLI macro to define this parameter list. The parameter list contains:

- The function code indicating the type of call
- The address of a work area
- The address of the parameter list applicable to each exit call

Installation Procedure

To install the TSIDUXI user exit routine, do the following steps:

Step	Action
1	Modify the TSIDUXI exit as desired.
2	Catalog TSIDUXI into a library which is available when the SVA is loaded.
3	Add the following statement to your SET SDL procedure: TSIDUXI,SVA
4	IPL

Displaying Tapes Required By a Job (TSIDLST)

The TSIDLST Program

Description

The TSIDLST program displays the volume serial numbers of tapes required for the running of a specific application. The input to this program consists of user-specifiable control statements. TSIDLST obtains the volume serial numbers from the DSN Catalog based on the dataset names in the D statements (see below). The TSIDLST parameters are:

- TITLE=*report-title*
- STEP=*step-name*
- D='*dataset-name*' [,V=*version-number*]
- NOTE=*user-comment*

All of these parameters can be combined on the same control statement if you wish.

Example

```
* $$ JOB JNM=JOHNM,CLASS=A,PRI=3
* $$ LST CLASS=A,DEST=(*,JOHNM)
// JOB JOHN
// EXEC TSIDLST
TITLE=THIS IS A TITLE STATEMENT - TEST OF TSIDLST
NOTE=THIS IS A TEST STATEMENT
D='JOHN.NAME.DISK',V=1
D='JOHN.NAME.DISK',V=1
D='JOHN.NAME.DISK1',V=1
D='JOHN.NAME.TAPE1',V=1
/*
/&
* $$ EOJ
```

Updating VTOC Entries (TSIDVUT)

Introduction

Description

TSIDVUT allows you to view and update existing VTOC entries. It performs the following functions:

Function	Action
DELETE	Deletes the VTOC entry.
PACKSCAN	Displays VTOC entries and allows you to perform any TSIDVUT update function from the operator console.
PERM	Changes the dataset's expiration date to 2099/366. This retains the dataset permanently and makes the dataset ineligible for deletion with the TSIDVUT ALL function or from the operator console.
RENAME	Changes the name in the VTOC entry.
RENUM	Increments the extent sequence by 1 (one). This is necessary to place uncontrolled datasets under BIM-EPIC control.
RENUMB	Decrements the extent sequence by 1 (one). This is necessary when taking datasets out of BIM-EPIC control.
RETAIN	Changes the dataset's expiration date to 2099/365.

TSIDVUT does no DSN Catalog processing. If it is used to update the entry of a cataloged dataset, the DSN Catalog and the VTOC will not agree and the results are unpredictable. Use Online Manager or TSIDMNT to update datasets in the DSN Catalog.

WARNING!

Use TSIDVUT to update the entries of uncataloged datasets only.

JCL Requirements

```
// EXEC TSIDVUT
control statements
/*
```

OPTION Values

If `// OPTION LOG` is not set, all control statements submitted will be printed on SYSLST along with corresponding messages indicating success or failure.

If `// OPTION NOLOG` is set, only messages indicating failure will be printed on SYSLST.

UPSI Values

None

Dataset Requirements

None

Control Statements

TSIDVUT functions are specified on control statements. They can be entered as SYSIPT data or from the console.

All parameters are positional and must be separated by commas. All dataset names must be enclosed in apostrophes. Except for the PACKSCAN command, all control statements must include the following items:

command [*device-number*],*volser*,'*dataset-name*'[,G=*n*]

PACKSCAN Command

Description

Use the PACKSCAN command to display and update VTOC entries from the operator console. You can perform any TSIDVUT update function, plus ADD, an additional function available only with the PACKSCAN command. ADD reactivates VTOC entries that have been marked as “deleted". Only datasets with less than four extents per volume can be reactivated.

When PACKSCAN is executed, TSIDVUT issues messages on the operator console and wait for operator responses. PACKSCAN processing is described below. See *Messages and Codes* for descriptions of the messages issued.

Syntax

```
PACKSCAN
```

EP766 Message

When you issue the PACKSCAN command, TSIDVUT issues message EP766. At this stage you identify the type of search you want (dataset or volid), or request the ADD function, or exit PACKSCAN.

Respond with any of the following:

- SEARCH='dsn' (to display the requested dataset)
- SEARCH='dsn.ALL' (to display all versions of the requested dataset)
- volid (to display all the datasets on the volume)
- ADD (to add a new VTOC entry)
- END (to exit PACKSCAN)

EP767 Message

Both SEARCH='dsn' and SEARCH='dsn.ALL' cause message EP767 to be issued. Respond with any of the following:

- volid (to identify the disk volume to search)
- NEWFILE (to request a new PACKSCAN function)
- END (to exit PACKSCAN)

If you entered a volid, see below. If you entered "NEWFILE", message EP766 will be issued (see above).

Volid

When you enter a volid, TSIDVUT displays the VTOC entries from that volume. If you entered SEARCH='dsn' previously, TSIDVUT searches only for the dataset you requested. If you entered SEARCH='dsn.ALL' previously, TSIDVUT searches for all matching datasets.

If there is no match for your dataset name or there are no VTOC entries on this volume, TSIDVUT issues EP767. See above for responses.

If there is a VTOC entry or a matching VTOC entry, TSIDVUT issues messages EP771 and EP772.

To change the VTOC entry, respond with any of the following:

- DELETE
- RENAME
- RENUM
- RENUMB
- PERM

These commands perform the same function in PACKSCAN as they do when specified on a TSIDVUT control statement. Please see the section that describes each individual command for more information on its use.

If you don't want to change the entry, you can respond with any of the following:

- [ENTER] to skip to the next match
- NEWFILE to request a new PACKSCAN function
- END to exit PACKSCAN

When all the matches or VTOC entries have been displayed, TSIDVUT issues message EP792. See above for responses.

ADD

When you request the ADD function, TSIDVUT issues message EP767. You can respond with any of the following:

- volid (to identify the disk volume you want to add the entry to)
- NEWFILE (to request a new PACKSCAN function)
- END (to exit PACKSCAN)

If you enter a volume, TSIDVUT issues several messages requesting information about the VTOC entry you want to create, beginning with message EP783. Enter the name of the dataset.

Next TSIDVUT issues message EP784. Enter the volume sequence number (from 1 to 9) for the volume.

If this is an FBA volume, TSIDVUT issues message EP790. Enter the number of blocks per control interval.

Next TSIDVUT issues message EP785. Enter the three digit extent sequence number (from 000 to 255). If the dataset is controlled, the first extent sequence number is 001.

If this is an FBA volume, TSIDVUT issues message EP786. If not, TSIVUT issues message EP791. In both cases, enter the starting and ending addresses of the extent.

Next TSIDVUT re-issues message EP785. If there is another extent, enter the extent sequence number. If you have entered all the extents for this volume, enter PUTV.

When you enter PUTV, TSIDVUT creates the VTOC entry and issues message EP766. See "PACKSCAN" (above) for responses.

DELETE Command

Description

Use the DELETE command to remove an entry from the VTOC. This can be necessary when a DSN Catalog controlled dataset version has been removed from the DSN Catalog but remains in the VTOC. Because BIM-EPIC uses an expiration date of 2099/365 on all disk versions created under its control, when the VTOC and the DSN Catalog do not agree for a catalog controlled disk dataset, disk versions must be manually removed from the VTOC using the DELETE command.

You can also use the DELETE command to remove a BIM-EPIC start-track-1 or non-BIM-EPIC disk version which is no longer needed, regardless of it expiration date.

Syntax

```
DELETE  {,volid                  }{,'dataset-name' [ ,G=n ]}
        {,poolid                 }{                        }
        {SYSnnn [ ,volid ]       }{,'string.ALL'           }
        {X'cuu',volid            }
```

Parameters

Parameter	Required?	Valid	Default
Specify only one of the following four (required):			
volid		1 to 6 characters	None
poolid		1 to 6 characters	None
SYS*nnn*		000 to 254	None
X'*cuu*'		Any valid device address	None
Specify only one of the following two (required):			
dataset-name		1 to 44 characters	None
G=*n*	No	1 to 999999	None
string.ALL		1 to 40 characters for the string.	None

volid specifies the disk volume by volume serial number.

poolid specifies a disk pool. When specified, volumes defined as part of the poolid but in quiesced or offline status will not be accessed nor will files residing outside the limits of the poolid. If *poolid* is specified, do not specify either SYS*nnn* or X'*cuu*'.

SYS*nnn* specifies the disk volume by logical unit number. If this operand is used, the logical unit number must already be assigned to the device. You can specify a volume in addition to the SYSnnn parameter. If both are specified, TSIDVUT processes the command only if the volume and logical unit number refer to the same volume.

X'*cuu*' specifies the disk volume by physical device address. You must also specify the volume.

'*dataset-name*' specifies a single dataset by its full name (CPU and partition independence characters may be specified in the dataset name).

G=*n* specifies the generation number of the dataset to be processed. Use the G=n parameter in conjunction with the '*dataset-name*' parameter when processing generation datasets.

'*string*.ALL' specifies all datasets beginning with *string* (CPU and partition independence characters may be specified in *string*). From 1 to 40 characters may be specified for *string*. Datasets with a permanent expiration date of 2099/366 will not be deleted when using the *string*.ALL parameter.

PERM Command

Description

Use the PERM command to give a permanent retention (expiration date of 2099/366) to a VTOC entry *not* controlled by the BIM-EPIC catalog. If the DSPLY response is given to message EP038 INSUFFICIENT SPACE IN POOL, VTOC entries with permanent retention will be listed by message EP043 but will *not* be available for deletion. The PERM command *should not* be used for datasets identified in the BIM-EPIC catalog – use the BIM-EPIC Online Manager or the TSIDMNT Catalog Management Utility to change retention for datasets identified in the BIM-EPIC catalog.

Syntax

```
PERM  { ,volid                  }  { ,'dataset-name' [ ,G=n ] }
      { ,poolid                 }  { ,'string.ALL'            }
      { SYSnnn [ ,volid ]       }
      { X'cuu',volid            }
```

Parameters

Parameter	Required?	Valid	Default
Specify only one of the following four (required):			
volid		1 to 6 characters	None
poolid		1 to 6 characters	None
SYS*nnn*		000 to 254	None
X'*cuu*'		Any valid device address	None
Specify only one of the following two (required):			
dataset-name		1 to 44 characters	None
G=*n*	No	1 to 999999	None
string.ALL		1 to 40 characters for the string.	None

volid specifies the disk volume by volume serial number.

poolid specifies a disk pool. When specified, volumes defined as part of the poolid but in quiesced or offline status will not be accessed nor will files residing outside the limits of the poolid. If *poolid* is specified, do not specify either SYS*nnn* or X'*cuu*'.

SYS*nnn* specifies the disk volume by logical unit number. If this operand is used, the logical unit number must already be assigned to the device. You can specify a volume in addition to the SYSnnn parameter. If both are specified, TSIDVUT processes the command only if the volume and logical unit number refer to the same volume.

X'*cuu*' specifies the disk volume by physical device address. You must also specify the volume.

'dataset-name' specifies a single dataset by its full name (CPU and partition independence characters may be specified in the dataset name).

G=*n* specifies the generation number of the dataset to be processed. Use the G=n parameter in conjunction with the *'dataset-name'* parameter when processing generation datasets.

'*string*.ALL' specifies all datasets beginning with *string* (CPU and partition independence characters may be specified in *string*). From 1 to 40 characters may be specified for *string*. Datasets with a permanent expiration date of 2099/366 will not be deleted when using the *string*.ALL parameter.

RENAME Command

Description

Use RENAME to change the name in a dataset's VTOC entry.

WARNING!

You must be sure that the new name shown is not the same as the name of an existing dataset on any volume within a poolid. The RENAME command checks for duplicate dataset names only within a single volume and NOT across multiple volumes. Therefore, when using the RENAME command specifying a poolid which contains space on more than one volume for a dataset that has extents on more than one of those volumes, the rename will be successful on each volume until a duplicate dataset name is found, at which point the rename command will terminate with message EP793 RENAME FUNCTION INVALID. Such an occurrence could result in only some extents of a dataset renamed and others not renamed.

Syntax

```
RENAME  {,volid                    }
        {,poolid                   }  ,'old-name','new-name'
        {SYSnnn [ ,volid ]         }
        {X'cuu',volid              }
```

Parameters

Parameter	Required?	Valid	Default
Specify only one of the following four (required):			
volid		1 to 6 characters	None
poolid		1 to 6 characters	None
nnn		000 to 254	None
cuu		Any valid device address	None
old-name	Yes	1 to 44 characters	None
new-name	Yes	1 to 44 characters	None

volid specifies the disk volume by volume serial number.

poolid specifies a disk pool. When specified, volumes defined as part of the poolid but in quiesced or offline status will not be accessed nor will files residing outside the limits of the poolid. If *poolid* is specified, do not specify either SYS*nnn* or X'*cuu*'.

SYS*nnn* specifies the disk volume by logical unit number. If this operand is used, the logical unit number must already be assigned to the device. You can specify a volume in addition to the SYSnnn parameter. If both are specified, TSIDVUT processes the command only if the volume and logical unit number refer to the same volume.

X'*cuu*' specifies the disk volume by physical device address. You must also specify the volume.

'old-name' specifies the existing dataset name as currently shown in the VTOC. (CPU and partition independence characters may be specified in *old-name*).

'*new-name'* specifies the new dataset name desired after the RENAME command has completed. (CPU and partition independence characters may be specified in *new-name*).

RENUM Command

Description

Use RENUM when you place existing, uncontrolled disk datasets under BIM-EPIC control. BIM-EPIC disk extents start at one (1), so BIM-EPIC does not control datasets with extent sequences beginning at zero (0). RENUM increments such disk extent sequences so that they begin at one (1). RENUM is a conversion tool for new BIM-EPIC users.

Syntax

```
RENUM  {,volid          }
       {,poolid         }{,'dataset-name' [ ,G=n ]}
       {SYSnnn [ ,volid ]}{,'string.ALL'         }
       {X'cuu',volid    }
```

Parameters

Parameter	Required?	Valid	Default
Specify only one of the following four (required):			
volid		1 to 6 characters	None
poolid		1 to 6 characters	None
SYS*nnn*		000 to 254	None
X'*cuu*'		Any valid device address	None
Specify only one of the following two (required):			
dataset-name		1 to 44 characters	None
G=*n*	No	1 to 999999	None
string.ALL		1 to 40 characters for the string.	None

volid specifies the disk volume by volume serial number.

poolid specifies a disk pool. When specified, volumes defined as part of the poolid but in quiesced or offline status will not be accessed nor will files residing outside the limits of the poolid. If *poolid* is specified, do not specify either SYS*nnn* or X'*cuu*'.

SYS*nnn* specifies the disk volume by logical unit number. If this operand is used, the logical unit number must already be assigned to the device. You can specify a volume in addition to the SYSnnn parameter. If both are specified, TSIDVUT processes the command only if the volume and logical unit number refer to the same volume.

X'*cuu*' specifies the disk volume by physical device address. You must also specify the volume.

'*dataset-name*' specifies a single dataset by its full name (CPU and partition independence characters may be specified in the dataset name).

G=*n* specifies the generation number of the dataset to be processed. Use the G=n parameter in conjunction with the '*dataset-name*' parameter when processing generation datasets.

'*string*.ALL' specifies all datasets beginning with *string* (CPU and partition independence characters may be specified in *string*). From 1 to 40 characters may be specified for *string*. Datasets with a permanent expiration date of 2099/366 will not be deleted when using the *string*.ALL parameter.

RENUMB Command

Description

Use RENUMB to remove controlled disk datasets from BIM-EPIC control. RENUMB decrements disk extent sequences that begin at one (1) so that they begin at zero (0).

Syntax

```
RENUMB  {,volid          }  {,'dataset-name' [ ,G=n ]}
        {,poolid         }  {,'string.ALL'           }
        {SYSnnn [ ,volid ]}
        {X'cuu',volid    }
```

Parameters

Parameter	Required?	Valid	Default
Specify only one of the following four (required):			
volid		1 to 6 characters	None
poolid		1 to 6 characters	None
SYS*nnn*		000 to 254	None
X'*cuu*'		Any valid device address	None
Specify only one of the following two (required):			
dataset-name		1 to 44 characters	None
G=*n*	No	1 to 999999	None
string.ALL		1 to 40 characters for the string.	None

volid specifies the disk volume by volume serial number.

poolid specifies a disk pool. When specified, volumes defined as part of the poolid but in quiesced or offline status will not be accessed nor will files residing outside the limits of the poolid. If *poolid* is specified, do not specify either SYS*nnn* or X'*cuu*'.

SYS*nnn* specifies the disk volume by logical unit number. If this operand is used, the logical unit number must already be assigned to the device. You can specify a volume in addition to the SYSnnn parameter. If both are specified, TSIDVUT processes the command only if the volume and logical unit number refer to the same volume.

X'*cuu*' specifies the disk volume by physical device address. You must also specify the volume.

'*dataset-name*' specifies a single dataset by its full name (CPU and partition independence characters may be specified in the dataset name).

G=*n* specifies the generation number of the dataset to be processed. Use the G=n parameter in conjunction with the '*dataset-name*' parameter when processing generation datasets.

'*string*.ALL' specifies all datasets beginning with *string* (CPU and partition independence characters may be specified in *string*). From 1 to 40 characters may be specified for *string*. Datasets with a permanent expiration date of 2099/366 will not be deleted when using the *string*.ALL parameter.

RETAIN Command

Description

Use the RETAIN command to change a dataset's VTOC expiration date to 2099/365.

Syntax

```
RETAIN  { ,volid          }  { ,'dataset-name' [ ,G=n ] }
        { ,poolid         }  { ,'string'.ALL'           }
        { SYSnnn [ ,volid ]  }
        { X'cuu',volid    }
```

Parameters

Parameter	Required?	Valid	Default
Specify only one of the following four (required):			
volid		1 to 6 characters	None
poolid		1 to 6 characters	None
SYS*nnn*		000 to 254	None
X'*cuu*'		Any valid device address	None
Specify only one of the following two (required):			
dataset-name		1 to 44 characters	None
G=*n*	No	1 to 999999	None
string.ALL		1 to 40 characters for the string.	None

volid specifies the disk volume by volume serial number.

poolid specifies a disk pool. When specified, volumes defined as part of the poolid but in quiesced or offline status will not be accessed nor will files residing outside the limits of the poolid. If *poolid* is specified, do not specify either SYS*nnn* or X'*cuu*'.

SYS*nnn* specifies the disk volume by logical unit number. If this operand is used, the logical unit number must already be assigned to the device. You can specify a volume in addition to the SYSnnn parameter. If both are specified, TSIDVUT processes the command only if the volume and logical unit number refer to the same volume.

X'*cuu*' specifies the disk volume by physical device address. You must also specify the volume.

'*dataset-name*' specifies a single dataset by its full name (CPU and partition independence characters may be specified in the dataset name).

G=*n* specifies the generation number of the dataset to be processed. Use the G=n parameter in conjunction with the '*dataset-name*' parameter when processing generation datasets.

'*string*.ALL' specifies all datasets beginning with *string* (CPU and partition independence characters may be specified in *string*). From 1 to 40 characters may be specified for *string*. Datasets with a permanent expiration date of 2099/366 will not be deleted when using the *string*.ALL parameter.

Combining Multiple DSN Catalogs into a Single DSN Catalog (TSIDCMRG)

The TSIDCMRG Program

Description

The TSIDCMRG program enables you to merge multiple DSN Catalog backup dataset versions (each created by the TSIDUTL program BACKUP function) into one DSN Catalog backup dataset version to be used as input to the TSIDUTL program RESTORE function. This procedure is typically desired when two or more VSE systems each using a separate BIM-EPIC DSN Catalog are combined into a single BIM-EPIC DSN Catalog and shared among those VSE systems. This procedure is also typically desired when two or more VSE systems each with its own BIM-EPIC DSN Catalog are consolidated into a single VSE system.

JCL Requirements

```
// TLBL INPUT
// TLBL OUTPUT,'NEW.BACKUP'
// EXEC TSIDCMRG,SIZE=TSIDCMRG
       (SIZE=TSIDCMRG is suggested to maximize partition GETVIS.)
```

UPSI Values

None.

Dataset Requirements

INPUT identifies the TSIDUTL program BACKUP function datasets. Notice that no 'file-id' has been specified for the INPUT filename. This technique is shown under the assumption that at least one of the TSIDUTL program BACKUP function tapes is not in the BIM-EPIC Catalog on the VSE system where the TSIDCMRG program will be executing and not all these tapes will reflect the same 'file-id'. With this technique, the message EP011 (UNASSIGNED INPUT . . . SYS004) will be issued as each INPUT tape is opened bypassing BIM-EPIC control for all of these volumes. (See Typical SYSLOG Activity below which reflects this technique).

OUTPUT identifies the tape dataset to accept the merged catalog data.

Usage Notes

1. Any number of TSIDUTL program BACKUP function input dataset versions may be processed.
2. Each TSIDUTL program BACKUP function input dataset version is processed individually.
3. The TSIDUTL program BACKUP function input dataset versions may be processed in any order.

4. Message EP800 will be issued after each TSIDUTL program BACKUP function input dataset version has been read to control the number of TSIDUTL program BACKUP function input dataset versions to be processed.

Conditions Causing Incompatibilities

Each BIM-EPIC DSN Catalog dataset name must be unique. Therefore, if a dataset name is encountered that duplicates a dataset name previously read, the duplicate dataset name and all the versions (including tape volume serial numbers) associated with that duplicate dataset name will be discarded. Each occurrence of a duplicate dataset name will be included on a SYSLST output report.

Each tape volume serial number found in the BIM-EPIC DSN Catalog must also be unique, regardless of which dataset name owns that volume serial number. Therefore, if a duplicate tape volume serial number is encountered that duplicates a tape volume serial number previously read, that tape volume serial number will be discarded. Each occurrence of a duplicate tape volume serial number will be included on a SYSLST output report.

Up to three dataset names may be automatically defined in a BIM-EPIC Catalog that can cause these incompatibilities:

- *EPIC.EVENT.DSN* is automatically defined when the BIM-EPIC job scheduling system is utilized. An entry under this dataset name is created when an event is posted and that entry is removed when the event is deleted. To avoid this incompatibility, assure there are no outstanding events (which appear as versions under this dataset name) prior to creating the TSIDUTL program BACKUP function dataset,. When the TSIDCMRG program processes the second (and subsequent, if any) occurrence of this dataset name, it will discard each duplicate and no harm will be done.

- ** DSN DELETED ** is automatically defined when a dataset name containing tape versions is deleted (not purged) from the BIM-EPIC Catalog. The delete function removes a dataset from the BIM-EPIC Catalog and all tapes associated with that dataset name become scratch tapes. Since the design of BIM-EPIC requires that every tape be associated with a dataset name, these scratch tapes become associated with the ** DSN DELETED ** dataset name. To avoid this incompatibility, rename the ** DSN DELETED ** dataset to a different dataset name that will be unique among all the BIM-EPIC Catalogs to be merged prior to creating the TSIDUTL program BACKUP function dataset. Once the TSIDCMRG process has been completed and the merged catalog backup has been restored, delete each of these renamed datasets.

- ***.VOLUME.DSN.** is automatically defined when the TSIDINIT program is run to initialize new tape volumes. As each tape volume is successfully initialized, that tape volume becomes a scratch tape associated with the ***.VOLUME.DSN.** dataset name. To avoid this incompatibility, rename the ***.VOLUME.DSN.** dataset to a different dataset name that will be unique among all the BIM-EPIC Catalogs to be merged prior to creating the TSIDUTL program BACKUP function dataset,. Once the TSIDCMRG process has been completed and the merged catalog backup has been restored, delete each of these renamed datasets.

User defined datasets with names that are duplicated among the BIM-EPIC Catalogs and *are names not involved with a multi-dataset group* can be renamed to a different dataset name that will be unique among all BIM-EPIC Catalogs to be merged prior to creating the TSIDUTL program BACKUP function dataset. Once the TSIDCMRG function has been completed and

the merged catalog backup has been restored, transfer the versions under the renamed dataset name into the desired dataset name. When all the verisons have been transferred out of the renamed dataset name, delete the renamed dataset name.

User defined datasets with names that are duplicated among the BIM-EPIC Catalogs and *are names involved with a multi-dataset group* must be carefully reviewed. The best technique for these situations would be to purge all the datasets involved in such a multi-dataset group from all but one of the BIM-EPIC catalogs and, once the TSIDCMRG function has been completed and the merged catalog backup has been restored, add each purged version.

Typical SYSLOG Activity

The following is a typical example of SYSLOG activity when running the TSIDCMRG program using the JCL as outlined above:

```
F4 0004 // JOB TSIDCMRG MERGE TWO CATALOGS INTO ONE
        DATE mm/dd/yyyy, CLOCK hh/mm/ss
F4-0004 EP011 UNASSIGNED INPUT             INPUT   SYS004
4 580
F4-0004 EP800 IS THERE ANOTHER CATALOG BACKUP TAPE (Y|N)?
4 y
F4-0004 EP011 UNASSIGNED INPUT             INPUT   SYS004
4 580
F4-0004 EP800 IS THERE ANOTHER CATALOG BACKUP TAPE (Y|N)?
4 n
F4 0004 EP801 NO ERRORS DETECTED
F4 0004 EOJ TSIDCMRG MAX.RETURN CODE=0000
        DATE mm/dd/yyyy, CLOCK hh/mm/ss, DURATION hh/mm/ss
```

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